THE OIL WEEKLY

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The Oil Man's Calendar

OCT.	
9–10	**American Gas Association, Annual Convention, New York.**
16–20	**National Safety Congress, Atlantic City, N. J.**
17	**National Stripper Well Association, Fort Worth, Texas.**
18–20	**Independent Petroleum Association of America, Fort Worth, Texas.**
19–20	**A.I.M.E. Petroleum Division, Los Angeles.**
NOV.	
13–17	**American Petroleum Institute, Stevens Hotel, Chicago.**
14	**25-Year Club, Stevens Hotel, Chicago.**
15–17	**American Institute of Chemical Engineers, Providence, R. I.**
DEC.	
4– 7	**American Society of Mechanical Engineers, Philadelphia.**
4– 9	**Exposition of Chemical Industries, Grand Central Palace, New York.**
14–15	**Petroleum Electric Power Association, Texas State Hotel, Houston, Texas.**
APR.	
10–12	**American Association of Petroleum Geologists, Chicago.**
11–12	**American Petroleum Institute, Eastern District, Division of Production, Columbus, Ohio.**

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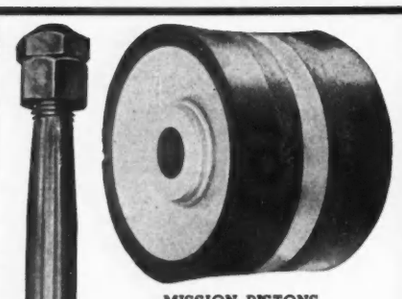
WHEN YOU GO *all* MISSION FOR THESE SLUSH PUMP PARTS

YOU ARE SURE OF

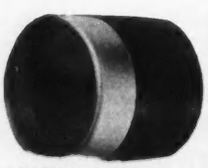


MISSION PISTONS

PUMP INSURANCE FREE

Mission unconditionally guarantees

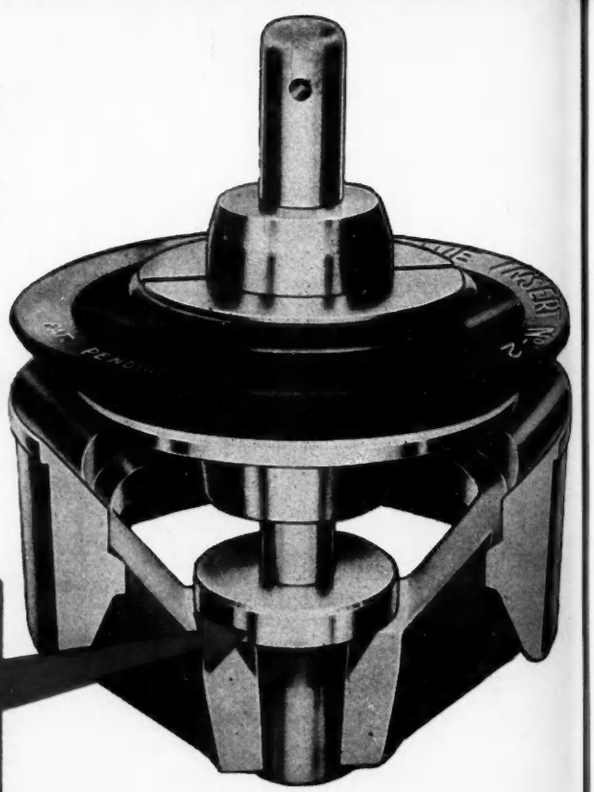
to repair at no cost to user, any damage to pumps caused by breakage of Mission Rods when used in conjunction with proper Mission Pistons and Mission Self-Sealing Gland Packings.



MISSION RODS

MISSION Self-Sealing GLAND PACKINGS

LOWEST POSSIBLE PUMP UPKEEP COSTS



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EXTENDS THE LIFE OF MISSION VALVES 100%

INSTEAD OF THROWING AWAY A VALVE AND SEAT COSTING $15.00 to $37.25, according to size, the operator merely replaces the worn bushing with a new one at a cost of **only $1.50 to $2.25.**

A MONEY SAVING PRACTICE: In many instances the life of Mission Valves and Seats has been extended 200% to 500% longer, due simply to the operator giving attention to replacing the wear-taking bushings at the proper times.

•

10th Annual Meeting
INDEPENDENT ASSOCIATION OF AMERICA
FORT WORTH, OCTOBER 18-19-20

MISSION POLICY

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THE OIL WEEKLY

OCTOBER 9, 1939

VOLUME 95 NUMBER 5

The Week's Panorama

Markets Boom . . . . . .

Under the double stimulant of oil field shutdowns and war, the industry's markets have continued to advance, with the greatest strength that they have shown for more than a year.

Although exports to Europe have not increased appreciably since the commencement of war, numerous inquiries have been reported, affecting particularly lubricants and aviation gasoline and also automotive gasoline, Diesel oil, and fuel oil for bunkering ships. Consequently, it is anticipated that increases in actual foreign business will occur in the near future.

Moreover, it is understood that substantial actual commitments have been made, but that shipments are being held up temporarily by the lack of adequate tankers.

Lubes Up Sharply . . . .

Practically all products have participated in the market advance since the middle of August, and the gains have been noteworthy.

In some cases, Western Pennsylvania refiners have increased their quotations more than 50 percent since mid-August on bright stocks and neutral oils, used in blending lubricants. Whereas bright stocks were quoted at 16 to 20 cents a gallon on August 15, they now are priced at 23 to 33 cents, or 7 to 13 cents higher. Similarly, neutral oils have advanced from a range of 15 to 20 cents a gallon to one of 21 to 33 cents, increases of 6 to 13 cents. The wide ranges ofthe current quotations reflect the chaotic conditions that prevail and the fact that supply is far short of demand. Many refiners are unable to fulfill the needs of their regular customers and instead of having material to offer in the open market are seeking outside supplies to augment their own, although such material can be bought only at high prices.

In the Mid-Continent, too, there has been great demand for bright stocks and neutral oils, and prices have risen sharply.

The recent precipitate advance has placed the lubricant market on the highest ground that it has occupied since early 1937.

Pennsylvania Crude . . . .

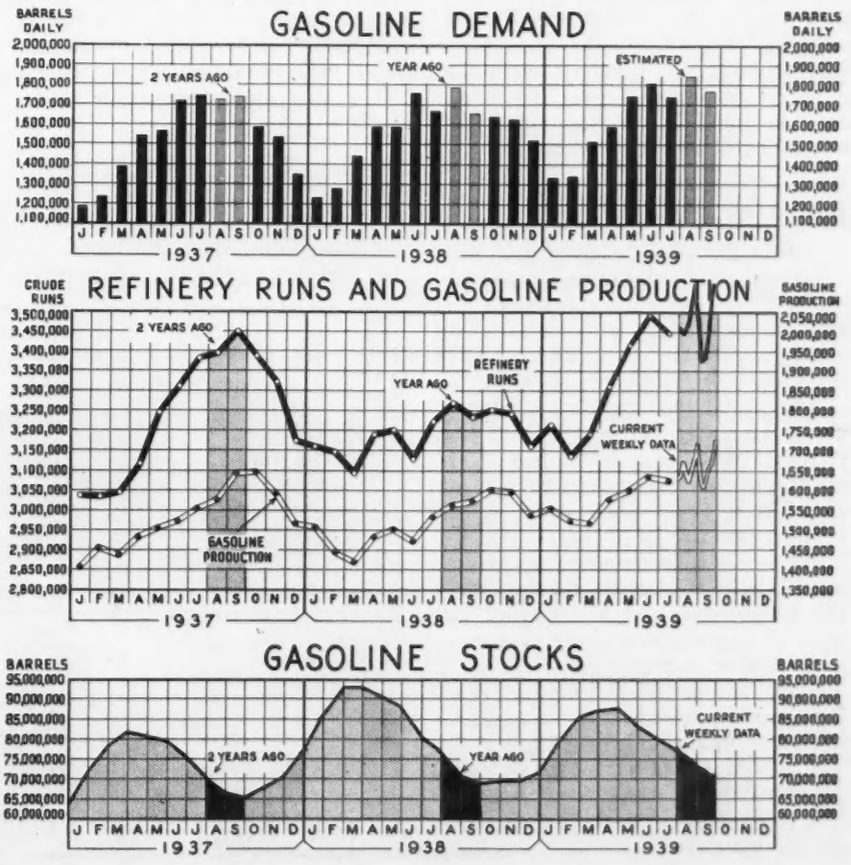
This fact that lubricant prices have recovered to the levels of early 1937 is pleasantly significant for the producers of Pennsylvania grade crude.

For if that crude, from which quality lubricants are made, should recover, similarly, to the levels of early 1937, it would advance about 80 cents a barrel.

When lubricant demand and

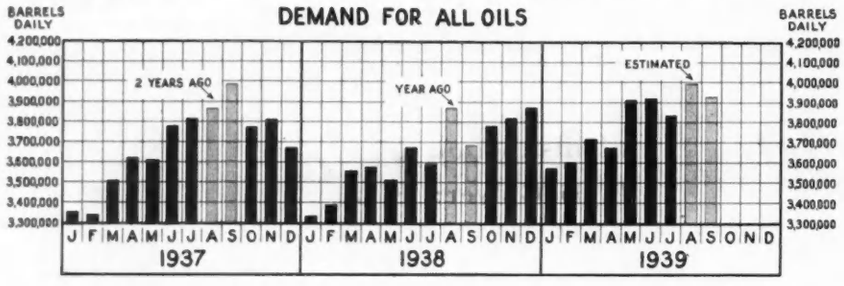
Gasoline Production Larger and Stocks Increased

Near-record refinery runs in week ended September 30 result in greater gasoline production and contra-seasonal addition to stocks.



Crude Output Large and Refinery Runs Near Peak

Wells yield less crude in week ended September 30 than in previous week but more than market demand; plant runs high despite slight reduction.


DEMAND FOR ALL OILS
BARRELS DAILY
2 YEARS AGO
YEAR AGO
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1937
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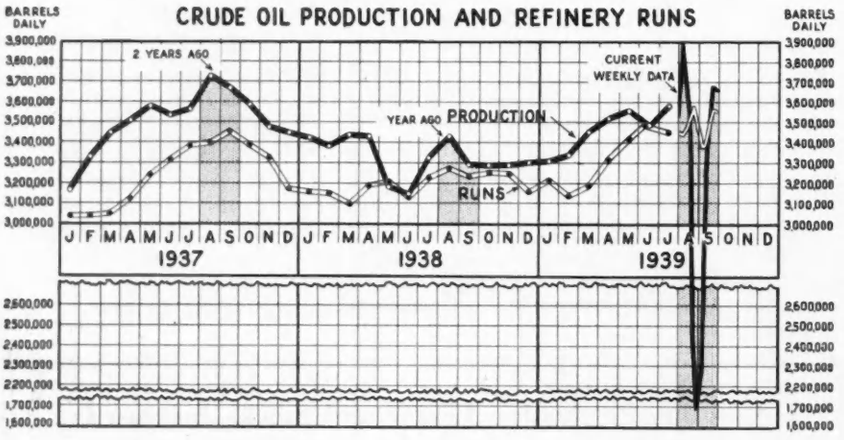

CRUDE OIL PRODUCTION AND REFINERY RUNS
BARRELS DAILY
2 YEARS AGO
CURRENT WEEKLY DATA
YEAR AGO PRODUCTION
RUNS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1937
1938
1939

prices receded in 1937 and 1938, as the recession progressed, Pennsylvania grade crude prices were reduced repeatedly, the cuts having aggregated approximately $1 a barrel. Early this year, 20 cents of that decline was recovered, in advances of 8 and 12 cents.

Gasoline Prices . . . . . .

Although aviation gasoline has been in great demand since the outbreak of war, with the result that prices have been advanced, the gains by the automotive gasolines have been only moderate.

The primary reason for this relatively poor performance of the regular gasoline market has been the failure of the industry to hold gasoline inventories within satisfactory limits.

Although increased exports would help to correct the gasoline inventory situation, the stocks are around 10,000,000 barrels in excess of indicated normal requirements.

The present quotations on regular grade gasoline (67-69 octane) at Oklahoma refineries range from 4¾ to 5¼ cents a gallon, or only ⅛ cent higher than the prices of 4⅝ to 5⅛ cents quoted at the middle of August.

However, the gasoline market had been gradually improving for several months prior to mid-August, and prices now are substantially above the extreme lows of last spring, which were near the all-time lows.

At the present levels, the gasoline prices at refineries are the best since about July, 1938.

However, tank wagon and service station prices have not recovered quite as much as the refinery prices.

Fuel Oils . . . . . .

The markets for heavy fuel oils and Diesel oils have been showing remarkable strength in recent weeks, in reflection of prospective larger exports as well as the pronounced pick-up in domestic demand, due to further stepping up of industrial production since the declaration of war.

Bunker C fuel oil in New York harbor now is quoted at $1.15 a barrel, or 20 cents higher than the 95-cent price that prevailed at the middle of August. Similarly, the quotations on the Gulf Coast have been raised generally to a range of 90 to 95 cents a barrel, as compared with prices 15 to 20 cents lower several months ago.

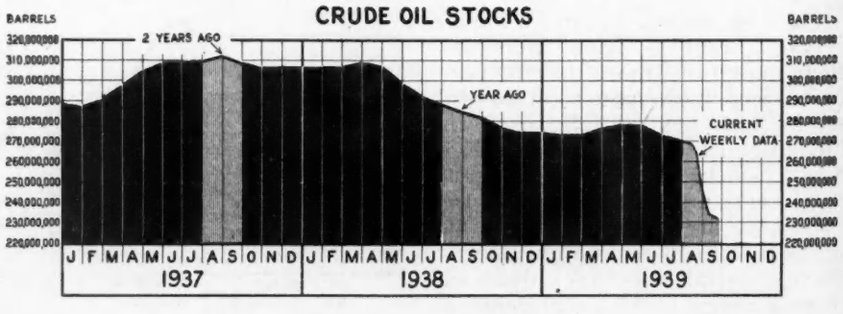
Diesel oils have shown improvement similar to that of the bunker oils.

Crude Prices Up . . . . . .

The increased demand and better prices of bunker oil, Diesel oil, and lubricants were responsible for the advances last week of 1 to 12 cents a barrel in crude prices in Southwest Texas, on the Texas-Louisiana Gulf Coast, and in several other Texas fields.

Crude Oil Stocks Decline to New 17½-Year Low

Quarter-million barrel withdrawal in week ended September 23 leaves storage at 232,811,000 barrels; refined oil stocks about unchanged.


CRUDE OIL STOCKS
BARRELS
2 YEARS AGO
YEAR AGO
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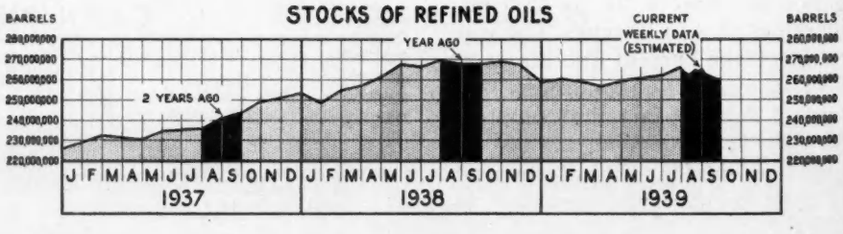
1939


STOCKS OF REFINED OILS
BARRELS
YEAR AGO
2 YEARS AGO
CURRENT WEEKLY DATA (ESTIMATED)
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1937
1938
1939

War Overshadows Taxation Theme of Texas Mid-Continent Session

Need of keeping out of war stressed by speakers at Houston gathering; awards of distinction given T. J. Donoghue and E. DeGolyer; E. L. Smith new president

By BRAD MILLS,
Associate Editor

TAXATION and the necessity for keeping the United States out of war featured discussions at the twentieth annual convention of the Texas Mid-Continent Oil and Gas Association, held in Houston October 5 to 7. Members seemed almost unanimous in the belief that this country could remain neutral, and in doing so industry would profit most in the end.

A high point of the meeting was an address Friday morning by United States Senator Carl Hatch of New Mexico, who flew to Houston for the meeting. He favored repeal of the present embargo law as a better plan to keep the United States out of the European conflict. He said there was no need to enter the war on any score, and if the country kept its good sense there would be no war.

The senator paid tribute to oil men with courage enough to risk their fortunes in the search for oil, and added that the petroleum industry could never have reached its present status in this country under a totalitarian government. He stressed the thought that this country has not reached its capacity to consume.

He stated it was very important that employment be increased, and that excessive taxation on industry for the benefit of unemployment was not a sound plan over a long period.

Donoghue and DeGolyer Honored

Distinguished service awards were presented to Thomas J. Donoghue, retired vice president of The Texas Company, and to E. DeGolyer, independent operator of Dallas. John R. Suman made the presentation to DeGolyer, while McDonald Meachum presented the award to Donoghue.

Howard Coonley of New York, president of the National Manufacturers Association, addressed the convention Thursday, and warned against a swift change of public opinion that might lead to war. He cited the change that came about between the fall of 1916 and the spring of 1917, a development that led to war. He deplored profiteering and asked the oil man to regulate prices equitably to costs.

Guy C. Jackson, county judge of Chambers County, Texas, talked on "Relationship of the Oil Industry to the County Government."

Curtis Morris of Longview, chairman of the Tax Committee of the East Texas Chamber of Commerce, reviewed the work done by his organization.

George H. Sheppard, state comptroller of Texas, also addressed the meeting.

Wildcats Entertain

The Houston Wildcats were hosts to oil men and their wives Friday evening at the River Oaks Country Club, the occasion having been the Annual Oil Men's Jamboree of that organization. The entertainment was excellent.

Fort Worth and Dallas made bids for the 1940 convention, the former by personal appeal and the latter by telegram. No decision on the meeting place was announced Friday.

At a meeting of the board of directors Thursday night, members voted unanimously their opposition to the Cole bill, now pending in Congress.

New President

E. L. SMITH
Elected President of Texas Mid-Continent Oil and Gas Association.

E. L. Smith, independent operator of Dallas and Mexia, was elected president for the ensuing year. Other officers reelected were George C. Gibbons, Dallas, executive vice president; Eugene McElvaney, Dallas, treasurer; H. R. Cullen, Houston, vice president, Gulf Coast district; Bryan W. Payne, Tyler, vice president, East Texas district; J. L. Collins, Corsicana, vice president, East Central Texas district; John F. Donohoe, Wichita Falls, vice president, North Texas district; Lynn Boyd, Pampa, vice president, Panhandle district; Harry Adams, Midland, vice president, West Texas district; A. J. Frazier, Abilene, vice president, West Central Texas district; Al Buchanan, San Antonio, vice president, Southwest Texas district.

All old directors were reelected, and the following new directors added: D. W. Hovey, Houston; W. C. Windsor, Tyler; R. B. Anderson, Vernon; Harry Mosser, Alice; Wallace Hawkins, Dallas; J. H. Snowden, Fort Worth; J. B. McAdams, Beaumont; Claude Scharbauer, Midland; Sam Ross, Kilgore.

C. P. McGaha, Wichita Falls, and M. B. Davis, Pampa, were the two new directors elected to the general association. All old members were reelected.

The annual handicap gold tournament was held at the River Oaks Country Club Friday afternoon.

Charles P. McGaha, retiring president, reviewed some of the industry's current problems in his address Thursday morning.

Too many people in Texas today look upon the petroleum industry as some sort of huge octopus operated by remote control rather than as a humanized business conducted by men right here in Texas—in fact in almost every town in Texas, he said.

When the proponents of new tax revenue measures want to impose additional tax burdens upon Texas oil operators they refer to them as "the big oil industry," or more frequently refer to us simply as "oil." A trite statement of those who seek greater tax revenues to meet constantly mounting costs of government is: "Make oil pay the bill—don't saddle any more taxes on the people," when as a matter of fact, "oil people" make up a large part of "the people of Texas," McGaha continued.

Any intelligent analysis of the human aspects of the Texas petroleum indus-

T. J. Donoghue, (right) recipient of the distinguished service award of the Texas Mid-Continent Oil and Gas Association, was born in Titusville, Pennsylvania, May 13, 1869, literally in the shadow of the first American oil well. His first job was with Standard Oil Company at Bradford, Pennsylvania, and he worked with that company through 1901. He teamed with the late J. S. Cullinan to enter Gulf Coast activity soon after Spindle Top was discovered. In 1902 he helped organize The Texas Company with J. S. Cullinan, and remained with the organization actively until his retirement this year. He was the first assistant treasurer of the company and was made a vice president in 1903. He is a loyal Catholic, a member of the Houston Chamber of Commerce, the Houston Club and the Houston Country Club. He has always taken an interest in civic affairs and the community chest is one of his hobbies.

The picture shows the award being presented by McDonald Meachum.

try cannot fail to reveal the fact that a majority of the people living in this state today are in one way or another affected by the fortunes and misfortunes of this principal industry, he added.

McGaha said the city of Houston is an outstanding example of what the petroleum industry has contributed to the progress and welfare of the state. Because of its strategic location as a refining and shipping center of the oil industry, and as a direct result of the state-wide expansion of the oil and gas business, Houston has in the past 10 years shown an increase in population of 70 percent. A recent authoritative survey made here shows that 263,520 residents of this city depend for their livelihood upon the oil industry and its allied branches. That is 62 percent of the entire population. Payrolls of this group aggregate 190 million dollars a year. There are over 1300 establishments in this city directly engaged in or affiliated with the petroleum industry.

Three-fourths of all the oil produced in Texas is piped into the Houston area for refining or shipment in intercoastal and foreign trade. As a result, 92 percent of all the tonnage handled through Port Houston consists of petroleum and its products.

Even though the tax rate per barrel of oil produced is at the highest level in the history of Texas oil, being 9.8 cents per barrel, the aggregate tax collections on oil production have actually shown a material decrease compared to collections made when the tax rate was lower.

War clouds now obscure the sunshine of world peace. The oil industry of Texas should lend every force it has toward the end that America shall stay out of this conflict. To a peace-loving nation, guided by humanitarian motives the thought of war is a repulsive one, McGaha stressed.

Oil is essentially a peace-time commodity and the false stimulation of war time leads only to the dark days of post-war depression. Yet we must face the realities of a serious situation in which the bulwarks of national defense must be strengthened and when the Texas oil industry may be called upon to play an important roll.

In the last world war oil was so important to the allies that Lord Curzon said, "The allies floated to victory on a sea of oil." Petroleum and its products will be even more important in today's mechanized warfare, and Texas, possessing over half of the nation's proven reserves of oil and more than one-fourth of the world's available supply, is a factor of far-reaching importance to our national defense, McGaha said.

Membership Increase

E. L. Smith, chairman of the membership committee, reported that the association membership had increased from 250 members in January, 1936, to 1400 at the present time. Twenty-two local groups, composed of 124 committeemen, worked this year with varying degrees of success. The net result was the gaining of 163 new companies subscribing for 197 individual memberships, a net gain of 11 percent over last year's membership roll. Membership of the association now totals 755 member companies.

A little less than half of the produc-

ing companies in Texas are members of the association, it was disclosed. The goal was set at 90 percent of the total. The association operates on a broad base. It does not deal in local or sectional issues, which come within the realm of the various regional associations. It was stated that it does not concern itself with matters of a controversial nature within the industry itself.

The report of the social security committee was read by Raymond M. Myers, chairman. It was disclosed that Section 3 has been amended so that benefits will be computed to the nearest multiple of 50 cents, rather than 20 cents under the old law; and that the benefit period has been increased from one week to two weeks.

The report of the theft-prevention committee, read by Paul W. Pitzer, disclosed several constructive developments. It was stated that three years ago, before the association started its theft prevention program, several large rings of thieves did a thriving business off the oil industry. They found it easy to load up a truck with equipment and tools at some isolated lease and be several hundred miles away with the loot the next day. The "big boys" got the gravy. They were the ones who bought the "hot stuff" off the thieves, dressed it up, repainted it and sold it back to the oil industry, or shipped it off to Europe as junk or scrap iron. They were not bothered much. Aside from occasional check-ups by local authorities, nobody took the trouble to watch them closely, so it was a pretty easy racket. Legitimate supply dealers found the competition stiff, and the oil industry took it on the chin going and coming by buying back its own property. And losses through theft ran up into the hundreds of thousands of dollars each year, the report showed.

Since the inception of the program, in May, 1937, 150 oil field thieves have been convicted and sent to the penitentiary. During the year, 43 thieves were convicted, drawing an aggregate sentence of 194 years in the penitentiary. Of this number, 3 were "fences." Several others are now awaiting trial.

Like most other things, thefts break out spasmodically, often in several different places over the state at the same time, as though at a given signal. This form of criminal activity is still well organized, and at the least relaxation of pressure it will spring back into action. From the angle of this phase of the association's work the committee looks with considerable apprehension at the European conflict, which will mean that for some time to come scrap iron will be greatly in demand, and markets for it along the Gulf Coast will doubtless be good. This may mean that extraordinarily stringent measures will have to be taken to prevent much of the oil industry's equipment from being shipped abroad to furnish the war with its guns and tanks. Certain it is that during the coming year the industry will need to be unusually vigilant to prevent a recurrence of the conditions which were prevalent in Texas three years ago, the report stated.

The tax committee report was read by R. B. Anderson, chairman, who stressed the importance of maintaining

[*Continued on page 147*]

E. DeGolyer, (right) who received the distinguished service award of the Texas Mid-Continent Oil and Gas Association, was born in Greenburg, Kansas. He attended the University of Oklahoma, worked with the U. S. Geological Survey for a time, and in 1909 joined the Mexican Eagle Oil Company. He became chief geologist in 1912 and helped to locate valuable oil reserves in Mexico. In 1919 he helped form Amerada Petroleum Corporation and was a vice president of the company. He was also instrumental in forming Rycade Oil Company. He pioneered use of the torsion balance and checked the instrument at Spindle Top dome. In 1924 he discovered Nash dome, the first geophysical discovery. He pioneered the seismograph in the Gulf Coast, and in 1925 organized Geophysical Research Corporation. He is a past president of both the American Association of Petroleum Geologists and the American Institute of Mining and Metallurgical Engineers. He was married in 1910 and has three daughters and a son.

The picture shows the award being presented by John R. Suman.

New Principles, Devices Revealed by A. I. M. E. Speakers

Detecting gas in mud, gamma ray logging filtration into strata, apparatus for underground study and acid-soluble pipe are among subjects discussed at Galveston session

By WARREN L. BAKER,
Editor

THE greatly diversified topics represented by the more than 20 papers on the fall meeting program of the Petroleum Division of the American Institute of Mining and Metallurgical Engineers, held in Galveston October 5-7, well illustrated the vast and rapid expansion of the industry's production science into new fields of research and operating technique. Several entirely new principles and devices were disclosed by some of the speakers. While many of the others spoke on old favored engineering subjects, without exception they were studies of particular phases that were generally unknown but a very few years ago.

Among the more recent new developments discussed were such as (1) the development of instruments for detecting the presence of gas and oil in the mud column, which eliminate the possibility of drilling through a petroleum bearing formation without it being known; (2) the perfection of the gamma-ray well logging apparatus to the point where it can be used in both open and closed holes for a variety of problems in addition to formation recording; (3) recent investigations of mud filtration into permeable strata showed that the solution to this harmful action was proper mud control; (4) the building of numerous laboratory apparatus for studying underground conditions; (5) the use of magnesium alloy pipe sections in the completion of multiple-zone wells because of the ability to remove it with chemicals. There were many other important disclosures also.

Claiming the largest number of papers was that old subject of drilling muds, but nearly all the seven studies of this topic were on some entirely new research problem. Such phases as chemical control, measuring entrained gas, radial filtration, ultraviolet ray examinations, temperature effect, dispersion by fluid motions and colloid chemistry constituted the mud papers on the program.

Another prominent topic of the meeting was the one of reservoir conditions, and speakers delved into such angles as flow of gas-liquid mixtures, influence of liquid properties on production, gas-injection operations, water flooding, mixing of gases in porous media, etc.

Despite all the attention devoted to highly scientific studies, however, the economics of the industry were not entirely lacking, as speakers discussed proration problems, estimation of oil reserves, selection of crudes by refineries, well spacing and other subjects.

Abstracts of most of the papers presented at the meeting follow:

Radial Filtration of Drilling Muds

By MILTON WILLIAMS,
Humble Oil & Refining Company,
Houston

It is generally recognized that fluid is lost from rotary drilling muds to permeable strata during normal drilling operations, but that this fluid is the filtrate from the mud, rather than the mud itself, has been shown by various researchers.

The presence of this filtrate in oil-bearing or gas-bearing strata is undesirable and harmful for numerous obvious reasons.

In view of these implications of the importance of filtration of mud, an investigation was undertaken to determine the factors involved in the infiltration process, and to correlate these in such a manner that the values obtained in routine filter tests employing a conventional filter of the "wall-building tester" type, together with data on size of hole, drill pipe, and rate of mud circulation, could be used to estimate water loss and distance of penetration of the filtrate into strata.

The investigation lead to the conclusion that since the dimensions of hole and rate of mud circulation are usually fixed by drilling conditions, variation of these to reduce filtration is impractical, and therefore, mud control obviously is the solution.

While each mud presents a different problem with regard to securing optimum filtration properties, certain generalities can be stated: (1) that dispersing agents reduce filtration, while coagulating agents increase filtration; and (2) that the predominance of particles of colloidal dimensions ordinarily is conducive to low filtration rates.

Detection of Radioactive Cement in Cased Wells

By LYNN G. HOWELL and
ALEX FROSCH,
Geophysics Department, Humble Oil & Refining Company, Houston

The gamma-ray well-logging apparatus has been improved, and has now reached the stage at which it can be put to use in both open and cased holes in a variety of problems.

Gamma-ray well logs show a remarkable correlation with electrical surveys, whether the former method is used in open or cased holes. In general, the sands show up as radioactive "lows" and the shales as radioactive "highs."

An interesting application of the gammy-ray well-logging apparatus is the detection of radiactive cement. This may be accomplished by mixing a radioactive substance with the cement before it is pumped into the well and afterward running a gamma-ray survey. In the tests performed, carnotite, containing about 10 percent uranium oxide, was mixed with the cement. In such instances, the top of the cement is indicated by a sharp upward break in the curves. In the gamma-ray method it is not necessary to make the survey while the cement is still setting up; also, the circulation of mud has no disturbing effect, and, finally, the concentration of ore added to the cement can be varied to give a sufficient large change in gamma-ray intensity even though the treated cement may be pumped behind old cement. However, the location of formations behind radioactive cement cannot be found with the gamma-ray method described, since the feeble radioactivity of the formations is masked by the strong radioactivity of the cement.

Other obvious applications of the method in wells have been suggested, such as the detection of radioactive acidizing agents, plugging agents, gels, and so on.

Mud Analysis for Determining Penetration of Petroleum Bearing Formations in a Well Bore

By A. L. SMITH,
Mid-Continent Supply Company,
Houston

FIRST ADD GALVESTON

The principles of two types of instruments used to analyze drilling mud to determine when an oil- or gas-bearing formation has been penetrated were defined in this paper.

The method used in detecting the presence of gas in drilling mud is a combination of principles and combustion. A small stream of mud is fed through a separator tank, and separated gas rises to the top where an applied suction carries the gas in mixture with air through a combustion chamber containing a hot-wire filament, heated by electrical current. The change

in electrical resistance of the filament or current flow in the circuit is relative to the amount of gas combustion at a definite rate of travel across the filament, and is indicated on an electrical meter located on the derrick floor.

To determine the depths of gas indications, the pump displacement of the well bore must be figured for time lag; the time being figured backward against the rate of penetration time in order to establish the correct depth of the returns. Another method used when testing a change in formation is to circulate for a given time after drilling into the new formation for several feet. The overall length of drill stem in the well bore is used as the depth measurement.

After observing a definite indication from the mud gas detector instrument, it is desirable to know if the formation contains oil saturation. A second instrument is put in use for this analysis. In it samples of the mud are observed under ultraviolet rays, and observation of the radiation effect permit quantitative grading.

Effect of Temperature on Plastering Properties and Viscosity of Rotary Drilling Muds

By H. T. BYCK,
Shell Development Company,
Emeryville, California

The plastering properties of six representative California drilling muds were studied over a temperature range of 70° to 175° F. at several mud weights, using a high-pressure circulating filter press with full size consolidated cores. In all tests, with untreated as well as chemically treated muds, the filtration rates at elevated temperatures were higher than at lower temperatures and in nearly every case this increased filtration rate was notably larger than could be attributed alone to the decreased viscosity of water—the flowing medium—at elevated temperatures.

It was concluded that no existing method will permit even an approximate determination of the filtration rate at high temperature from data at room temperature. It is necessary to measure filtration at the temperature actually anticipated in the well, or to make a sufficient number of tests at various lower temperatures so that a small extrapolation of these data to the anticipated well temperature may be applied. Such tests should be carried out on the mud as actually used in the well.

The viscosity of each of the muds was determined over the same temperature range. While no relationship was observed between mud viscosity and plastering properties, it was found that chemical treatment of the muds for viscosity reduction shifted the temperature of minimum viscosity to appreciably higher values than for untreated muds.

Magnesium Alloys for Oil Well Casing

By P. E. FITZGERALD and
J. H. ADKISON,
The Dow Chemical Company

Use of easily removable magnesium alloy pipe in the completion of wells, which has been receiving considerable attention recently, offers advantages to operators who must employ multiple zone completion methods. The most common application involves drilling the well through the first pay and reducing the hole at the top of the second, where the pipe is set and cemented. The alloy section is placed in the string so it is opposite the upper pay. This allows for the testing and production of the lower sand, and the subsequent removal of the upper alloy section to expose that horizon to production.

In completion of wells with several pay zones, these alloy sections can be employed so that all producing zones can be exploited as well as in other conditions that will suit local circumstances to the best advantage.

A considerable number of different magnesium alloys are available. They all contain at least 88 percent magnesium and their properties vary with the proportions of the minor constituents which are present.

The alloy pipe designated as "F" has been found most suitable for oilfield casing. It is 100 percent soluble in hydrochloric acid, the rate of which reaction varies with the percent of acid concentration. One of several proven removal methods may be used. Theoretical calculations have shown that 2.24 gallons of 15-percent hydrochloric acid are required to dissolve 1 pound of magnesium alloy F, but it is necessary in field practice to use two to three times this amount. Field practice has indicated that 2000 gallons of 15-percent acid is satisfactory for the removal of 80 feet of pipe.

When any two different metals are in contact in an electrolyte, a voltaic action will take place resulting in an attack on the metal which has the higher electrode potential, which in the case of pipe is the magnesium alloy section. Adequate protection against electrolytic action may be obtained for a considerable length of time by thoroughly coating all parts of the alloy with an approved primer.

The metal in use is not particularly resistant to the attack of salt brine. Therefore, it is not recommended for permanent installation.

Factors Affecting the Refiner's Choice of Crudes

By G. A. BEISWENGER,
Standard Oil Company (New Jersey)

The demand for any particular type of crude is reflected both in the refiner's product requirements and the yield and quality of the specific stocks obtainable from that crude. Although available processing methods and addition of agents make it theoretically possible to produce any type of refined product from any crude source, this is not always profitable.

Therefore, it is a common practice for the refiner to analyze the crudes available to him. The results of these analyses permit the refiner to make a proper selection of crudes in accordance with the processing equipment which he has available and his immediate product requirements.

For example, if a refiner needed aviation gasoline and additional motor gasoline production, certain types of crude would be desirable although he might 6e faced with high-sulphur content and sourness of the gasolines. In many sections of the country, large volumes of specific products are cracked to gasoline since the crudes available in those sections contain quantities of these products far in excess of the tributary outlet.

Recent Well Spacing Practices in Kansas

By JOSEPH A. KORNFELD,
Geologist-Engineer, Wichita, Kansas

For a five-year period prior to 1937, Western Kansas operators enjoyed a moderate rising market demand for crude, and during that interim followed a policy of regular 10-acre spacing as they drilled numerous wells in an effort to build up their potential to procure a larger share of the market.

However, a large-scale drilling campaign that reached its peak in 1937 automatically caused a huge reduction in per-well allowables, although pipe line runs attained a peak. For example, one operator in the Silica pool, drilled 35 wells without increasing his daily allowable or income. Realization of the fallacy of "drilling for potential" during a temporary period blessed by high allowables was responsible for a shift to wider-spacing patterns. Wider spacing has been applied not only to new fields, but in several instances to fields already partly developed. New fields today are being developed on 20- and 30-acre spacing, of which there are several patterns in use. In fields already partly drilled, a 13.3-acre spacing plan is employed in several cases. In the latter system, 6 wells are located on an 80-acre tract, instead of the usual 8. Several methods of applying the 13.3-acre plan are used, but generally speaking the edge wells of a property are drilled on a regular 10-acre spacing plan, while inside locations are more widely spaced.

Value of Natural Gasoline Plant Operations to the Producer in Some Major Texas Fields

By W. H. WOODS,
Gulf Oil Corporation, Houston

Value of natural gasoline plant operations to the producer includes a cash payment for his gas and a few services rendered by return of residue gas for fuel purposes. The cash payment of gas—expressed in cents per barrel of oil produced—depends on many variables of which the most important are gas/oil ratio, the richness or gasoline content of the gas, content of butane and other liquid products, availability of markets for residue gas, available gas pressure, and price of products.

These various factors are found to differ widely in all fields so that it would be of little value to use the cash payment in one or the average of two or more fields by which to evaluate the gas from all fields. For this reason, two fields were selected as representative in each of the three major producing districts of the state.

The cash payment to the producer for utilization of gas in the Goldsmith field of West Texas is 0.415 cents per barrel of oil produced, while in the McElroy field it amounts to 1.115 cents. In the East Texas field the payment is 0.583 cents for every barrel produced, while the Jefferson field in the same district receives 0.284 cents. In Coastal Texas, the Hardin field payment is 0.255 cents per barrel of oil produced, and is 0.547 cents in the Heyser field.

The free service rendered the producer by natural gasoline plant operations consists of the gathering, compressing, and returning of fuel gas for lease consumption. No value is assignable to this service, so only the vol-

[*Continued on page 145*]

As We See It . . .

CO-OPERATION IS PROGRESS

RESEARCH is responsible for the advancement of modern industry, and advancement has accelerated with the growth of cooperation. Many of the wonders that are commonplace today were discoveries of pure scientists who sought things experimentally, not knowing what they sought, and again they were brought about through the inspiration which we call genius—inventors who seek definite ends. But science is but the germ and invention the meat of the acorn; the tree is the work of the technologist and the artisan, and perfection of the fruit their skill. This is true of all modern industry, and notably of the oil industry. In no industry, however, has cooperation in the exchange of ideas and knowledge been more widely practiced nor more extensively beneficial.

PETROLEUM came into industry at the time of its greatest gain of momentum—or more properly it might be said that it greased the track and smoothed the bearings so that speed could be obtained. In its rapid growth it has made practical application of old sciences, bringing them to higher perfection, and has created new sciences to fill its needs. Its advance has challenged the metallurgist, the machine maker and the chemist to keep pace with its requirements, and in turn has perfected products to spur on another set of engineers in making machines to use them.

AT A TIME when there is so much discord in the world, and while the industry's most condemnatory critics are having their inning with Congress for a sounding board, it is refreshing to contemplate how all this is brought about. Obviously it was no accident, and it is evident that so much could not have been done without cooperative action.

A ROSTER of petroleum associations in the United States includes seventy-five technical and cooperative units, not including marketers' organizations and scores of local groups engaged in educational activities.

In addition to these are groups of men who contribute to and benefit from the activities of technical groups in associated industries.

TECHNICAL studies are carried on in scores of laboratories maintained by the more substantial units of the industry and in universities where fellowships are endowed. Studies are conducted and ideas exchanged on all pertinent subjects from pure science to the form of sales tickets at filling stations.

There are secrets, of course, but in the main the engineering and technical societies of the industry are clearing houses for the exchange of information—universities where theory is crystallized into action and action into progress in recovering and utilizing oil.

COST of this runs into millions, but it has proven profitable as an investment. Money is spent by the companies to maintain these organizations and in the time of the men on their payrolls and further, and perhaps as great a contribution, is the unselfish time and effort of individuals who extend themselves for the common cause. Naturally, the larger corporate units of the industry contribute most in both men and money. Critics complain of this as "domination," but do not stint themselves in participating in the benefits that accrue.

Non-technical associations make their contributions to progress by making common cause in seeking equity from governments and understanding from the public. They serve, too, to bring together competitors who learn to know each others' problems and gain a friendliness that does not make rivalry less keen but does tend to keep the blows above the belt.—J. K. R.

South Texas Expansion Continues at Fast Pace

By EARL S. POST, Staff Writer

SOUTH (or Southwest) Texas now commands a prime position in the United States oil and gas industry. Although its major development started less than 20 years ago, this 60-county area now has 258 oil and condensate pools on production with at least as many prospects subject to development.

At mid-year 1939, its unproduced reserves amounted to 1,255,706,117 barrels, or roughly 7 percent of the nation's total and enough to supply this country under ordinary conditions for a period of 347 days. The estimated total discovered oil to mid-year had amounted to 1,830,877,265 barrels of which 575,171,148 barrels had been produced, leaving the above net reserves.

Tremendous gains have been made in the development and expansion during the past five years. On January 1, 1935, this territory had 74,528 proven acres of oil properties. At that date, the potential recovery was rated at 571,892,404 barrels. In exactly 4½ years, or on July 1, 1939, the figure had increased to 172,310 proven acres, with ultimate yield rising 220 percent to 1,830,877,265 barrels.

Although there has been a general decline in exploratory work throughout the nation, which also has affected the South Texas wildcatting, crude reserves continue their rapid rise through this trend. The first nine months of 1939 saw 75 new discoveries, including 28 new oil and gas fields and 47 new horizons in present fields. This is comparable to 109 discoveries in 1938 and 108 discoveries in 1937, peak years in wildcatting successes for the territory.

In finding these new fields, ultimate yield estimates have been increased far in excess of withdrawals. Although the first six months of 1939 witnessed an increase in production over the corresponding period of 1938, previous peak, reserves at mid-year were 87,118,395 barrels greater than at the beginning of 1939.

During the first eight months of 1939, there were 1858 completions in the South Texas area, as compared with 1838 during the corresponding period of 1938, a gain of 1.6 percent. Crude oil production amounted to 55,428,400 barrels as compared with 54,619,950 barrels during the corresponding period of 1938, a gain of 1.6 percent. Condensate production, totaling approximately 1,700,000 barrels, gained fully 50 percent over 1938. Comparison of these figures with the United States is interesting as in the nation as a whole 7 percent fewer wells were completed in 1939 than during eight months of 1938 and production gained only 0.5 percent; showing the increasing position South Texas has gained in the nation's crude development.

On January 1, 1925, South Texas crude reserves totaled only 31,650,000 barrels, or 0.59 percent of those of the nation. At the same time, South Texas accounted for only 4.32 percent of Texas. By January 1, 1935, the district's national position had reached 0.81 percent, but it dropped to 1.78 percent of the state's reserve, this being accounted for by the discovery of the East Texas field. The gain since that time has been consistent, rising to 4.31 percent of the nation and 7.93 percent of the state, on January 1, 1939, and showing further gains during the first six months of this year.

South Texas' discovery rate, as indicated from the accompanying table, has been great. There have been 657 successful wildcats in search for new sources of reserves. Of this number, 315 have found new pools. Some of these areas ultimately have been merged into single fields, leaving the territory a total of 294 in the condensate, crude and gas groups. New horizons discovered amounted to 342

Because its drilling activity, discoveries, reserves and production are maintaining a greater trend than that of the nation as a whole, South Texas commands the attention of the industry. On the following pages of this issue will be found comprehensive development data on the area and its individual fields. Also included is a special three-color insert map.

on October 1. These additional zones exist almost entirely along the lower Gulf Coast and in the Mirando trend, where multiple wells are required in many cases. Some fields have as many as 20 separate producing zones, plus dozens of intermediate lenses in the different groups. The above discovery total is of entirely separate horizons.

Of importance is the figure on developed and undeveloped acreage. At mid-year, crude and condensate fields accounted for 172,310 acres of developed acreage. In addition 66,743 acres were considered within the general confines of oil and condensate fields, but remained to be drilled. Overall acreage, including gas, oil, and condensate, amounts to well in excess of 250,000 acres.

At mid-year, there were 12,515 wells on production. These wells had an allowable of 313,992 barrels per day. Including the condensate production, which is not on the allowable schedule, the territory was producing approximately 325,000 barrels per day.

Drilling Percent Gains

Accounting for 28.69 percent of Texas operations and 10.87 percent of all work in the United States during the first eight months of 1939, South Texas remained the nation's leading drilling center from an expenditure point of view. Close to $65,000,000 is being spent in this territory during 1939 in drilling, equipment and reworking of oil and gas wells as well as for transportation and storage producing developments.

At September 1, 1939, records showed 1868 completions in the South Texas area as compared with 6510 for the entire state. The nation's total for the period amounted to 17,191 wells for the same period. Drilling in this area was 1.6 percent ahead of last year with the 8-month period showing exactly 30 more completions in 1939 than during the corresponding period of 1938. This is especially significant in that the nation's drilling has declined 7 percent from 1938.

Illinois, center of a new drilling boom, led the nation in drilling with a 176 percent increase to 2247 completions for the eight month period, or 379 more wells than in South Texas. In comparison on drilling costs, however, South Texas far exceeds the Illinois area in investments. The average depth in Illinois is 1857 feet, while in South Texas, the average depth was 4264 feet for the eight month period, there being a total of 8,268,102 feet of hole made by 1868 operations. Including the cost of high pressure equipment, tankage, etc., drilling and completion costs average in excess of $17,500 per well.

The position South Texas has maintained in drilling during the past five years is interesting. It had jumped from 8.60 percent of the nation's drilling in 1935 to 10.87 percent of the work in 1939. Likewise, its 16.92 percent of Texas drilling in 1935 had advanced to 28.69 percent in 1939. Of importance is the fact that the fluctuation of national drilling is reflected in South Texas figures. They are sufficiently parallel to indicate that this area has reached its stable level and future exploration and development will be about on a par with the present operations.

Drilling Footage Up

South Texas has increased its percentage of the footage drilled in the United States sharply. Its 5,287,864 feet drilled in 1373 completions during the first six months of this year represented 14.05 percent of the nation's total footage, in contrast with 11.82 percent during 1938. Likewise, it has continued to account for a larger portion of the state's drilling footage. During the first half of 1939 thirty percent of Texas' hole was in South Texas, whereas only 23.06 percent was in the area during the year 1938.

Drilling depths have been constantly increasing with the average in South Texas maintaining about the same ratio as the nation. In 1937 the average depth for the area was 3577 feet, the next year 3723

Comparison of Crude Oil Reserves in South Texas by Producing Horizons

FORMATION	Developed Acres	Expected Acre Yield	Estimated Ultimate Yield	Cumulative Recovery	Remaining Reserve	Percent of South Texas Reserve
Miocene-Oligocene						
January 1, 1935	18,270	7,507	137,158,500	39,062,547	98,095,953	30.99
July 1, 1936	20,565	14,012	288,151,031	60,250,309	227,900,722	44.18
July 1, 1937	31,405	16,528	519,086,304	92,904,526	426,181,778	54.19
January 1, 1939	74,100	12,477	924,520,228	176,842,144	747,678,084	63,98
July 1, 1939	78,060	13,385	1,044,838,228	199,963,737	844,874,491	67.28
Change Past Two Years	+46,655	− 3,243	+525,751,924	+107,059,211	+418,692,713	+13.09
Change Past Six Months	+ 3,960	+908	+120,318,000	+ 23,121,593	+ 97,196,407	+ 3.30
Jackson-Yegua						
January 1, 1935	28,053	8,066	226,268,200	57,723,726	168,544,474	53.25
July 1, 1936	37,881	7,950	301,172,247	88,861,661	212,310,586	41.16
July 1, 1937	46,300	8,587	397,574,793	111,162,826	286,411,967	36.41
January 1, 1939	60,225	8,451	508,936,739	163,048,900	345,887,839	29,60
July 1, 1939	63,135	8,303	524,227,715	177,425,241	346,802,474	27,63
Change Past Two Years	+16,835	−284	+126,652,922	+66,262,415	+60,390,507	−8.78
Change Past Six Months	+1,910	−148	+ 15,290,976	+14,376,341	+ 914,635	−1.97
Serpentine						
January 1, 1935	3,685	5,897	21,730,304	15,825,625	5,904,679	1.87
July 1, 1936	3,715	6,132	22,780,250	17,881,856	4,989,394	0.95
July 1, 1937	3,980	5,758	22,915,000	18,868,592	4,046,402	0.52
January 1, 1939	4,385	6,165	27,034,324	19,895,561	7,138,763	0.61
July 1, 1939	4,425	6,133	27,139,324	20,174,805	6,964,519	0.55
Change Past Two Years	+445	+375	+4,224,324	+1,305,213	+2,919,111	+0.03
Change Past Six Months	+ 40	− 12	105,000	+ 279,244	− 174,244	−0.06
Navarro-Taylor						
January 1, 1935	19,215	916	18,592,900	14,548,576	4,044,324	1,28
July 1, 1936	19,215	991	19,039,675	15,312,852	3,725,823	0.72
July 1, 1937	19,465	953	18,541,525	15,867,477	2,674,048	0.34
January 1, 1939	19,560	1,018	19,905,951	16,399,259	3,506,692	0.30
July 1, 1939	19,625	1,014	19,905,951	16,605,444	3,300,507	0.26
Change Past Two Years	+160	+61	+1,364,426	+737,967	+626,459	−0.08
Change Past Six Months	+ 65	− 4	.....	+296,185	−296,185	−0.04
Austin Chalk-Edwards Limestone						
January 1, 1935	5,285	31,815	168,142,500	128,238,517	39,903,983	12.61
July 1, 1936	6,550	31,343	205,293,750	138,333,193	66,960,557	12.98
July 1, 1937	6,740	31,632	213,196,785	146,178,198	67,178,198	8,54
January 1, 1939	6,970	30,612	213,365,251	148,988,907	64,376,344	5.51
July 1, 1939	7,065	30,399	214,766,047	161,001,921	53,764,126	4.28
Change Past Two Years	+325	−1,233	+1,569,262	+14,823,723	−13,414,072	− 4.26
Change Past Six Months	+ 95	−213	+1,400,796	+12,013,014	−10,612,218	− 1.23
Total of All Horizons						
January 1, 1935	74,508	7,673	571,892,404	255,398,991	316,493,413	100
July 1, 1936	87,926	10,651	836,436,953	320,639,871	515,797,082	100
July 1, 1937	107,890	10,862	1,171,314,407	384,981,619	786,492,393	100
January 1, 1939	165,240	10,250	1,693,762,493	525,174,771	1,168,587,722	100
Jult 1, 1939	172,310	10,655	1,830,877,265	575,171,148	1,255,706,117	100
Change Past Two Years	+64,420	−207	+659,562,858	+189,349,134	+469,213,724	....
Change Past Six Months	+ 7,070	+405	+137,114,772	+ 49,996,377	+ 87,118,395	....

feet and this year 4264 feet. Corpus Christi district has been in the lead with its average increasing from 5218 feet in 1937 to 5271 feet in 1938 and 5435 feet in 1939. Mirando district, likewise, has increased from 2462 feet in 1937 to 2715 feet in 1938 to 2998 feet in 1939.

Although drilling has shown a definite trend toward increased depths and the Gulf Coastal (deep basin) average nearing the 5500-foot mark, this district is still a comparatively shallow reserve. Only 46 wells have been carried to 8000 feet or below in the history of the territory. Of this number, 26 are included in the 8000-9000 foot bracket, 12 in the 9000-10,000 bracket, 7 in the 10,000 to 13,000-foot bracket and only one below 13,000 feet.

Development of these deeper reserves seems certain for the future, bringing about a tremendous increase in drilling costs. Already the limited deep exploration has uncovered a number of fields. McCampbell field, on the Aransas-San Patricio County line, is the first deep field in South Texas to be developed. It had recovered 231 operations below 7000 feet to October 1, they being completed in sands at 7100, 7200 and 7300 feet. Other fields with production below 7000 feet include Lamar, Francitas, Refugio, Saxet, South Clara Driscoll, La Gloria, Blucher, La Blanca, Mestinas, McAllen, Weslaco, La Sal Vieja, Mercedes. None of these areas, however, have received intensive drilling. They are sufficiently well separated to suggest that deep production will be prevalent through the entire trend of South Texas Gulf Coast.

Prior to 1936, only six wells had been carried to below 8000 feet. In 1936, six wells were drilled to that level, 14 were sunk in 1937 and 13 the following year. During the first three-quarters of this year the total amounted to seven. No 10,000-foot wells were drilled prior to 1937, one being sunk that year. Four were drilled in 1938 and three have been completed during the first nine months of this year. This included one well which is the third deepest operation in the world.

The consistency of drilling in South Texas over a period of 12 years is evidenced by the accompanying table. In 1927, there were only 123 wells completed. Each year, with minor exceptions, the gain in number of wells was rapid until 1937 when the peak was reached. In 1938, a decline was shown, but in 1939, the number of operations again are on the upturn.

In reaching this prime position in the oil world, South Texas has passed through more than three-quarters of a century of exploration. Its development dates back to about 1860 when shallow dug wells at Noleda (now known as Piedras Pintas salt dome near Benavides in Duval County) found a limited amount of crude. This discovery likely resulted from the search for water and finding of oil was not looked upon as being of particular value.

Wagon trains from Indianola port in Matagorda Bay to Monterrey, N. L., Mexico, were routed through Noleda, allowing the picking up of small quantities of crude for shipment to the various points along the line. This, therefore, placed South Texas in the oil business commercially before any other place in the Mid-Continent district, and about the same time as the Pennsylvanian boom.

The first drilled wells to produce were at the southeast edge of San Antonio in Bexar County, where in 1889, wells to 150 feet in the Dulnig ranch found small production. During the six-year period between 1889-1895, this pool accounted for 361 barrels of production. These wells still exist, although they are not regularly produced.

South Texas then had a lapse of 9 years before anything of importance occurred. Bexar County provided the discoveries for the next several years, their depths ranging from 100 to 600 feet. These included Mission, 1904; Somerset, 1911; Gas Ridge and Alta Vista, both in 1912. Mirando district's first production came with a shallow gasser in the Reiser area, Webb County,

Rate of Discoveries in Southwest Texas By Years

YEAR	New Fields	New Horizons	Total Discoveries
1905	1	..	1
1909	2	..	2
1910	..	1	1
1912	2	..	2
1913	1	..	1
1914	2	..	2
1915	2	..	2
1916	1	..	1
1918	1	1	2
1919	1	..	1
1920	4	..	4
1921	5	2	7
1922	5	2	7
1923	5	3	8
1924	4	2	6
1925	4	4	8
1926	6	3	9
1927	7	7	14
1928	8	7	15
1929	11	8	19
1930	11	13	24
1931	8	13	21
1932	14	19	33
1933	14	13	27
1934	25	24	49
1935	29	16	45
1936	24	30	54
1937	41	67	108
1938	49	60	109
1939*	28	47	75
Total	†315	342	657

* 1939 figures are first 9 months.
† Several of the above new areas have been merged into single fields; hence the total number of productive areas in South Texas are less than the discoveries reported.

South Texas Footage and Depth Trend
Compared with Nation and State

	United States	Texas	South Texas	South Texas Percent		South Texas by Districts		
				United States	Texas	Corpus Christi	Laredo	San Antonio
WELLS COMPLETED								
1935	22,669	11,525	1,950	8.60	16.92	.....	.....	.....
1936	26,935	11,527	3,321	12.33	28.81	.....	.....	.....
1937	33,112	14,997	3,594	10.85	23.96	1,456	1,522	616
1938	27,528	12,184	2,744	9.97	22.52	1,216	1,057	471
1939*	17,191	6,510	1,868	10.87	28.69	899	687	282
FOOTAGE DRILLED								
1935	64,112,400	35,042,173	6,114,705	9.54	17.45	.....	.....	.....
1936	77,071,920	38,505,628	10,639,909	13.81	27.63	.....	.....	.....
1937	99,922,908	51,106,381	12,857,959	12.87	25.16	7,597,442	3,727,888	1,532,629
1938	86,485,040	44,311,800	10,218,307	11.82	23.06	6,410,099	2,870,312	937,896
1939†	37,707,717	17,261,446	5,287,864	14.05	30.63	3,559,605	1,353,675	374,585
AVERAGE DEPTH PER WELL								
1935	2,929	3,041	3,135	....	....	.....	.....	.....
1936	2,861	3,074	3,204	....	....	.....	.....	.....
1937	2,974	3,408	3,577	....	....	5,218	2,462	2,488
1938	3,144	3,637	3,723	....	....	5,271	2,715	1,991
1939†	3,119	3,646	3,851	....	....	5,467	2,623	1,818

* First 8 months of 1939.
† First 6 months of 1939.

Drilling and Production Data, South Texas District

	Wells Completed		DETAILS OF DRILLING						Barrels Production		Initial Production	
			1939			1938						
	1939	1938	Oil	Gas	Dry	Oil	Gas	Dry	1939	1938	1939	1938
January	251	222	182	9	60	134	16	72	7,355,950	7,132,050	55,622	48,348
February	235	202	166	4	65	131	11	60	7,038,900	5,922,750	49,245	70,363
March	216	221	144	2	70	137	8	76	7,723,450	7,022,300	56,964	45,659
April	189	236	128	4	57	152	16	68	7,512,900	6,962,450	57,495	59,336
May	280	275	184	9	87	169	14	92	7,534,550	6,744,750	98,615	72,478
June	202	220	130	4	68	141	9	70	6,768,900	6,160,150	75,413	54,778
July	264	190	170	11	83	112	9	69	7,074,450	7,314,850	58,357	62,232
August	221	272	124	9	88	182	9	81	4,469,300	7,360,650	43,539	85,404
Total for 8 Months	1,858	1,838	1,228	52	578	1,158	92	588	55,428,400	54,619,950	495,250	498,598

September 1, 1939—South Texas showed 1.6 percent fewer completions than in 1938. and 1.6 percent more production. United States showed 7 percent fewer completions than in 1938, and 0.5 percent more production.

in 1909. Lower Gulf Coast was added to the producing lists in 1912 when a water well at Kingsville, Kleberg County, made a gasser. The first actual production in the area, however, did not occur until 1914 when a well drilled specifically for gas was a successful completion. Gas in northern Live Oak County in 1915 opened the Pettus trend. The Hill Country was the last individual district to be added to the producing columns, a shallow test near Sisterdale in Kendall County producing early in 1930.

It was in 1919 when South Texas really got underway in development. High crude prices made the shallow development at Somerset, discovered ten years prior, most interesting. Hundreds of wells were drilled and this district was in line to boom. In 1921, Mirando Valley proved the first production of importance for the Mirando district. Then Edgar B. Davis' discovery of crude in the Edwards limestone in Luling in 1922 pushed South Texas to the fore as a major source of crude. The year 1928 proved most eventful with the first oil completion at Refugio to place the Lower Coastal trend on a boom-like basis. Pettus followed the next year. Except for a short period during the early days of the East Texas field development program, this district has continuously expanded.

The past two years have seen the district's development and exploratory program reaching an apparent level. As evidenced from the work now underway and generally proposed, it may be expected to continue to drill around 2500 to 3000 wells per year. It is not likely that its discovery rate will continue at the same level as during the past several years, but it is virtually certain that its reserves will show a rise proportionately to previous expansion.

Exploration still has been insufficient to definitely determine the future of South Texas. It is known, however, deeper zones in some pools are indicative of reserves in other fields along their respective trends. While the number of 10,000-foot or deeper holes along the Lower Gulf Coast are limited in number, the future production of the territory undoubtedly lies below that level. Elsewhere in the Gulf Coast, namely Eastern Texas and Louisiana, crude is found to below 13,000 feet. Saxet, Mercedes and Weslaco have evidenced reserves to below 9000 feet in five deep wells drilled in the three areas. Many other structures of similar proportions have not been explored below 7500 feet and only one has had an operation exceeding 10,500 feet.

The unknown quantities of South Texas which may account for reserves calculated in the billions of barrels are numerous. The Trinity series along the present Edwards limestone trend of the Balcones Fault Zone region has been partly explored. The Sparta-Wilcox trend through the Pettus and Mirando district has been subjected to much leasing and is being slightly explored. Lower Yegua and Cook Mountain formations along the Pettus trend may see immediate development. Cockfield and lower zones down-dip from the Pettus trend, likewise, are now being tested. Frio-Vicksburg group, too, are the goal of deeper Gulf Coast explorations.

Miocene-Oligocene

The definite trend of development has been toward the Miocene-Oligocene formations with the bulk of the new reserves coming within this group. On January 1, 1935, only 30.99 percent of the total reserves were in this classification, the figure rising to 67.28 percent on July 1, 1939. The increase had been consistent with a continuance of new sands and new pools being found at regular intervals. On January 1, 1935, 18,270 acres of production had been developed with the estimated ultimate yield at 137,158,500 barrels. In the 4½-year period, this amount had been increased many fold to 1,004,838,228 barrels.

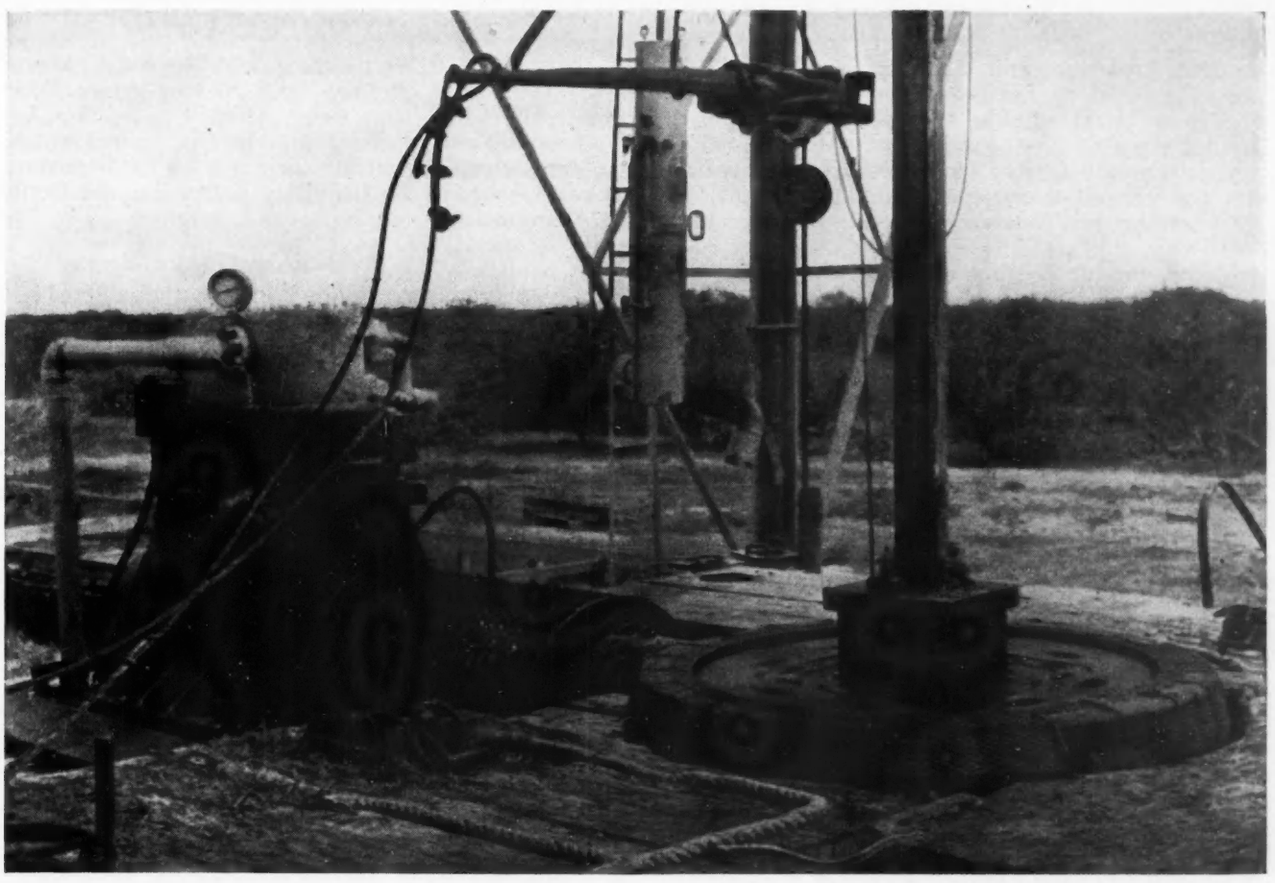
Of vital importance, is the per acre recovery calculated for this zone. From 78,060 acres of developed properties, an average recovery of 13,385 barrels per acre is expected. While this is second in position from a recovery point of view, the tremendous amount of acreage involved makes it a consistently major zone. Further, some 52,350 acres of undeveloped acreage within probable oil production should greatly enhance these crude reserves. A great portion of the undeveloped acreage is within the distillate or condensate group, hence the per acre recovery rate may show some decline when the territory is completely drilled.

The Miocene-Oligocene group consists of production ranging from the Catahoula through the Vicksburg formations and comprises the territory adjacent to the Gulf of Mexico extending through

Comparison of South Texas Completion and Production Rates During the Past Ten Years

PERIOD	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Annual Production
Year 1939*	1,373	934	32	407	393,354	43,925,650
Year 1938	2,744	1,751	128	295	140,096	82,569,500
Year 1937	3,594	2,533	143	275	269,540	86,730,300
Year 1936	3,321	2,640	102	769	1,209,797	56,601,400
Year 1935	1,950	1,158	86	706	483,202	31,255,850
Year 1934	1,387	700	97	581	227,060	26,723,212
Year 1933	987	455	57	475	210,708	23,520,041
Year 1932	808	403	51	354	142,902	25,009,300
Year 1931	536	226	54	256	79,325	32,192,047
Year 1930	785	513	66	206	418,774	41,985,000
Year 1929	811	412	109	290	122,956	25,563,700
Year 1928	226	120	37	69	37,694	9,259,600
Year 1927	123	48	59	16	5,734	11,789,220
	18,645	11,893	1,021	4,699	3,741,142	492,124,820

* Includes six months.



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Colorado County to the Mexican border. Roughly, it follows a point through southeastern Lavaca County parallel to the coast line to a point west of Rio Grande City in Starr County. Production ranges from 140 feet to 9927 feet with the general average 5000 to 6000 feet. Except for several isolated cases, this trend is the only one with production below 5000 feet.

Discoveries in the Miocene-Oligocene group during the first eight months of 1939 exceeded all other areas combined. Forty of the 47 new sands uncovered were in this group, while 17 of the 22 fields were found in this trend. Jim Wells County was the leader with nine new fields and five new sands. Tomoconnor, Refugio County, retains the top position in the area's reserves with 3820 acres of developed properties expected to recover a minimum of 301,000,000 barrels. Its remaining reserve at the mid-year was calculated at 287,616,479 barrels.

Of the discoveries during the past two years, West Ranch in Jackson County looms up as potentially the most important. Already 1800 acres have been placed within the confines of the pool and that much more is considered proven. Its present reserve is calculated at 32,400,000 barrels and may be boosted to above 75,000,000 barrels before the field is finally developed in its present 5100 and 5500-foot Frio sands.

Jackson-Yegua Trend

Following the same trend as the Miocene-Oligocene, but up-dip and producing from an older series of formations, the Jackson-Yegua group accounts for 27.63 percent of the reserves of South Texas. Although this zone has been constantly expanded, its percentage of South Texas total reserves has materially dropped. On January 1, 1935, it accounted for 53.25 percent of the district's unproduced crude. Each year the figure dropped. This was in spite of an increase of more than 110 percent in actual reserves. During the 4½-year period, developed areas mounted from 28,053 acres to 63,135 acres. The gross ultimate yield, likewise, increased from 226,268,200 barrels to 524,227,715 barrels. It was estimated that in addition to the 63,135 acres of developed properties, another 12,268 acres remained to be drilled in areas considered proven.

Government Wells, Duval County, remains the principal pool in this trend, producing from Middle Jackson sands, it is expected to ultimately yield 85,008,000 barrels from 7590 acres. Development of deeper production along the eastern side of Duval County in Jackson and Cockfield sands from 4700 to 5400 feet may ultimately take Government Wells out of the leading position.

Of vital importance to South Texas future reserves is the exploration of Cook Mountain, Mount Selman, and Wilcox zones along this trend. Already production has been found in the former sands, but insufficient work has been done to definitely determine the future of the other formation.

Navarro-Taylor Series

Following into the older beds, Navarro and Taylor formations are last in producing importance. From January 1, 1935, to July 1, 1939, it dropped from 1.28 percent of the district's reserves to 0.26 percent. These are approximately 19,625 acres of actual producing properties ranging from 150 to 2000 feet with a total reserve of 3,300,507 barrels. The total ultimate yield is not expected to exceed 1014 barrels per acre. A limited amount of deeper production in this zone is found in the Pearsall field of Frio County at 3900 feet.

The first 1,000,000-barrel reserve oil field in South Texas to be found was in this formation, being Somerset, just south of San Antonio. It is the second largest field in South Texas from an area standpoint and has had more producing wells drilled than in any other field. Its development came during the post war period when crude prices were high and the shallow development was unusually profitable.

The Serpentine zone is confined

New Fields Discovered in Southwest Texas During First Eight Months of 1939

COUNTY	FIELD	COMPANY WELL AND LOCATION	Date Completed	Elevation	Depth (Feet)	Producing Formation	Initial Production	Gravity	Choke (Inches)	Lbs. Pressure	
										Tubing	Casing
Bastrop	Red Rock	Hughes and Company, Lents 1; survey No. 21	5-25-39	479	2306-2428	Dale Lime	75	37	Pump	....	....
Duval	Chiltipin	Nicholls, Graham 1; survey No. 572	6-30-39	393	4760-4795	Pettus	10 M Gas	44.8	1/8	1440	1660
Duval	Muralla	Blanchard, Parr 1; survey No. 298	5-22-39	490	4710-4715	Pettus	33	42.6	1/4	1050	1550
Duval	Southland	Hiawatha, Southland A-1; Flores grant	4-13-39	401	5286-5298	Pettus	145	44.89	1/2	620	1520
Jackson	Texana	Moore & Ahern & Cron & Gracey, Drushel 1; Scott survey	8-23-39	14	5682-5710	Frio	32	51	1/4	2050	2300
Jim Wells	Ben Bolt	Bridwell, Smith 1; La Trinidad grant	5-24-39	196	5231-5251	Vicksburg	196	39.7	1/8	875	100
Jim Wells	Blucher	Shell, Von Blucher 1; Best survey	6-17-39	140	7500-7559	Vicksburg	36	53	1/4	3600	200
Jim Wells	Camada	Parr & Delaney, Hoffman 1; section 8	5-28-39	287	5627-5637	Hockley	33	46.4	1/4	150	1400
Jim Wells	Clark (1)	Gravis & Doran, Clark 1; Lopes grant	3-23-39	191	4795-4835	Frio	16	60	1/4	1450	1850
Jim Wells	West Alfred (2)	Howeth, Adams 1; Adams survey	4-14-39	196	4661-4674	Vicksburg	272	45.5	1/4	835	1250
Jim Wells	La Gloria	Magnolia, Maun 1; La Blanca grant	3-23-39	141	6533-6598	Frio	165	60	1/4	2125	2250
Jim Wells	Magnolia	Gillespie & Sons, Shear 1; A. B. & M. survey	4-30-39	162	5436-5448	Frio	108	43.8	1/8	1500	2025
Jim Wells	Reynolds	Texas Gulf, Miller 1; Agua Dulce grant	6-24-39	150	5101-5155	Vicksburg	44	37.4	1/4	1550	2000
Jim Wells	Wade City	Hunter & Quinn, Pundt 1; Poitevent survey	7-12-39	204	4778-4820	Frio	30	47.7	1/4	1850	1900
Live Oak	White Creek	Brauer, Holland & Smith, Bonham 1; B. S. & F survey	2-17-39	215	1390-1397	Hockley	75	22.39	Pump	....	50
Nueces	Minnie Bock	Texas Conservative, Bock 1; Herrerra grant	5-31-39	67	3805-3835	Catahoula	145	26.5	1/8	1275	1575
Nueces	North Luby	Seaboard, La Prelle 1; Block 9, Roberts & White subdivision	5-19-39	54	4345-4361	Miocene	173	51	1/8	225	1200
Refugio	Mellon Creek	Copano, O'Connor C-1; Hoyt survey	2-13-39	43	5854-5878	Frio	379	37.5	1/4	1300	1900
San Patricio	East Mathis	Seaboard, Pearson 1; Block 29, Paul's subdivision	6-16-39	134	5258-5270	Frio	54	35.5	1/8	325	700
Schleicher	El Dorado	Opp. Jackson 1; Tex-Central R. R. Co. survey	7-27-39	2353	4049-4081	Cisco Lime	60	34	Pump	....	150
Starr	North Ricaby (3)	Bishop, Moss & Owens, Ricaby 1; Porcion 83	5-22-39	272	1294-1305	Frio	120	21.3	Pump	....	30
Starr	North Rincon (4)	Transwestern, Cameron 1; survey No. 228	5-23-39	424	4154-4173	Frio	132	41.4	11/64	375	725
Starr	S. La Reforma	Magnolia, Guerra—Fee 2-F; Farrias grant	8-21-39	308	5798-5832	Frio	80	51.6	1/4	2075	2260
Webb	Adami	Johnson, Adami 1; A. B. & M. survey	5-15-39	326	992-999	Mirando	35	20.5	Pump	....	....
Webb	Volpe	Magnolia, Volpe—Benavides 5-B; B. S. & F. survey	6-20-39	761	2458-2466	Mirando	90	22.5	Pump	....	....
Zapata	South Mirando Valley (5)	Interstate, Lopes 1; survey No. 113	4-15-39	653	1791-1798	Mirando	35	20.2	1/4	....	....

(1) Clark may ultimately be merged with East Alice.
(2) West Alfred may ultimately be merged with Alfred.
(3) North Ricaby may ultimately be merged with Ricaby.
(4) North Rincon may ultimately be merged with Rincon.
(5) South Mirando Valley may ultimately be merged with Mirando Valley.

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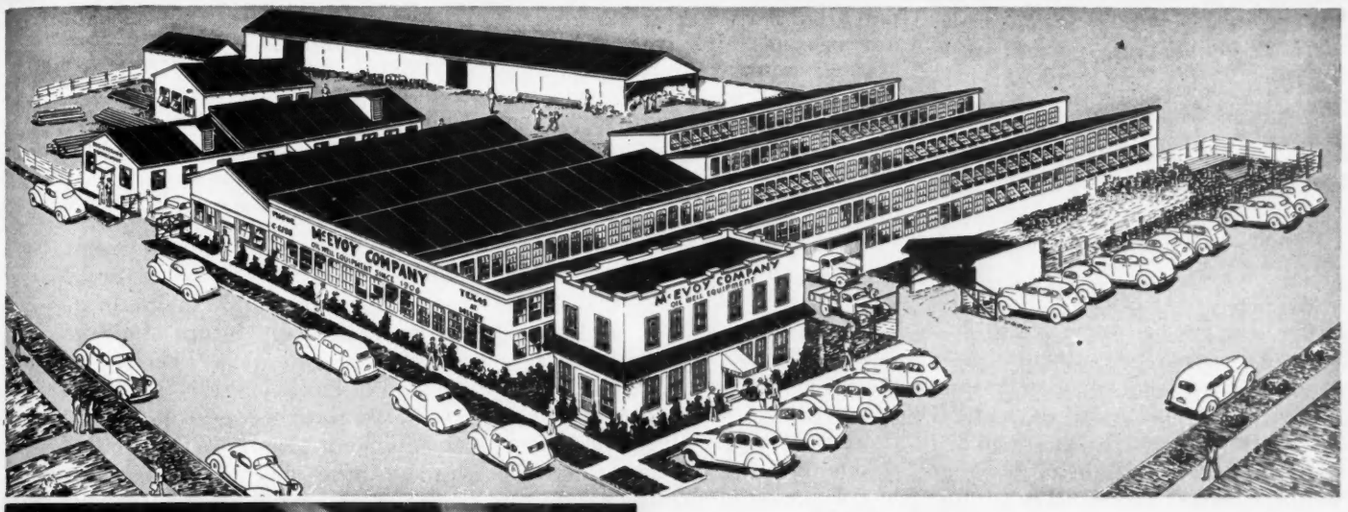

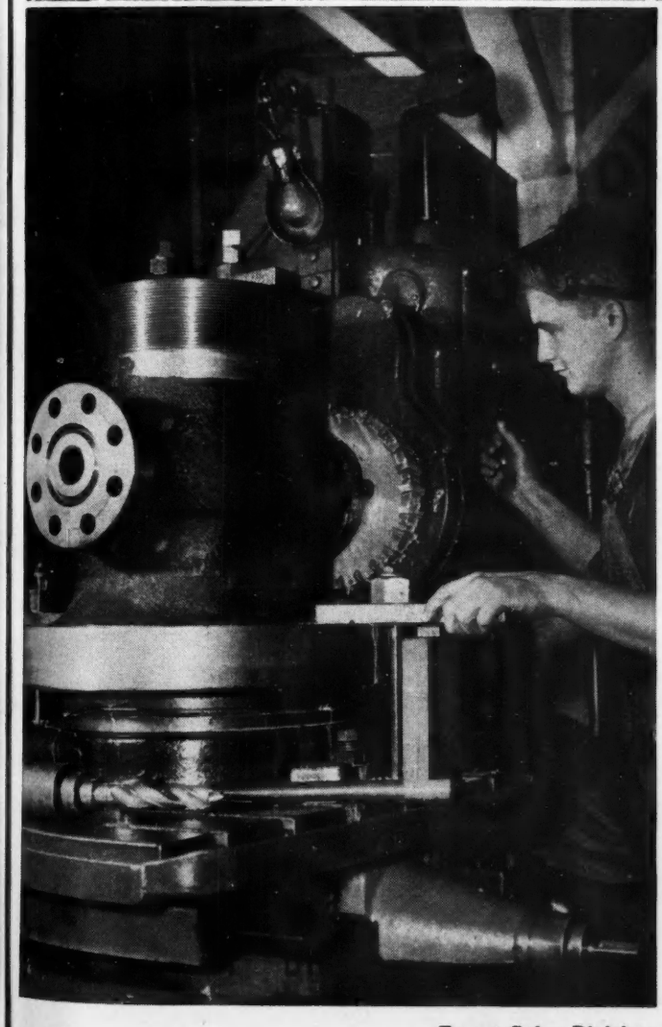

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almost entirely to a district through northern Caldwell, Bastrop, eastern Travis and Williamson counties. Igneous plugs are numerous in this area and several have had unusually high recoveries. Accounting for only 0.55 percent of South Texas reserves, it still is an important independent development. Majority of the wells are from 1500 to 2500 feet and recovery is generally calculated at 6133 barrels per acre. The recovery from this formation generally is considerably less than the above figure, but several isolated fields have materially boosted the general average.

Austin Chalk and Edwards Limestone

From a per-acre recovery point of view, the Edwards limestone is at the top of the list in South Texas. Three major fields have been discovered in this district and their average ultimate yield has been conservatively calculated at in excess of 40,000 barrels per acre. Some leases have recovered as high as 120,000 barrels per acre and are still producing. In figuring reserves in this trend, the much less prolific Austin chalk must be included. This brings the average yield of the 7065 acres of developed production to 30,399 barrels per acre. Since January 1, 1935, this trend's position in South Texas has dwindled from 12.61 percent of the reserves to only 4.28 percent of the reserves. During the past two years, 13,414,072 barrels more crude were produced than discovered.

The discovery of Edwards limestone production at Luling, in Caldwell County, in 1922, placed South Texas on the oil map as a potential major area. Large producers and high recoveries increased interest in this territory. For several years, this trend accounted for better than 90 percent of the reserves and production of South Texas.

Other Zones

Only one spot in South Texas has produced from the Glenrose-Trinity series, being Chittim in Maverick County. This district has produced considerable condensate and gas from the Glenrose formation at 5800 feet. This formation is a potential major zone.

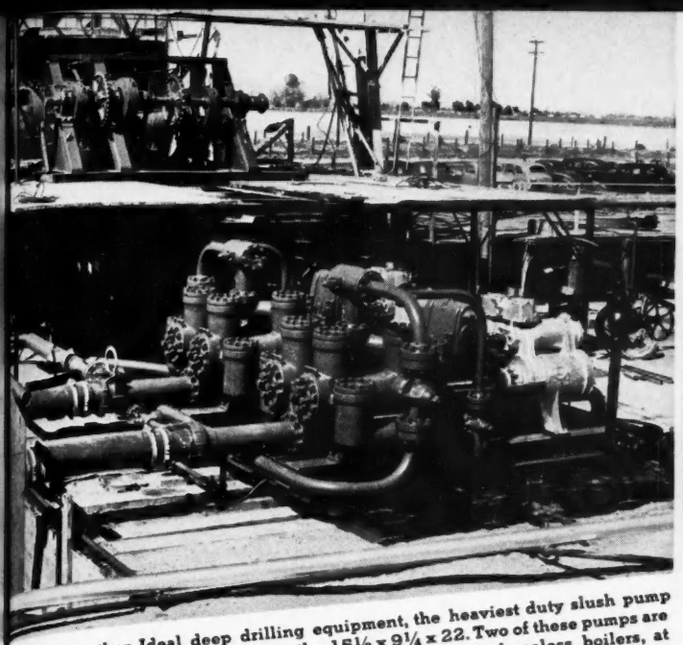
Across the Balcones fault into the Lower Edwards Plateau or Hill Country a limited amount of exploration has uncovered a small amount of production. It may be expected to be further expanded in the future. On the border of the South Texas district, Schleicher County received one new pool and one sand discovery this year. At Eldorado, a 4000-foot Canyon limestone district was opened, while Pennsylvanian production was found about 15 miles east of the same town in a 5500-foot oil well. Kimble, Kerr, Kendall, Val Verde have had limited amounts of oil produced from wells in the Trinity, Permian, Pennsylvanian and Mississippian formations. Expensive exploration, meager successes, and lack of information has delayed development materially in this area.

Conclusions

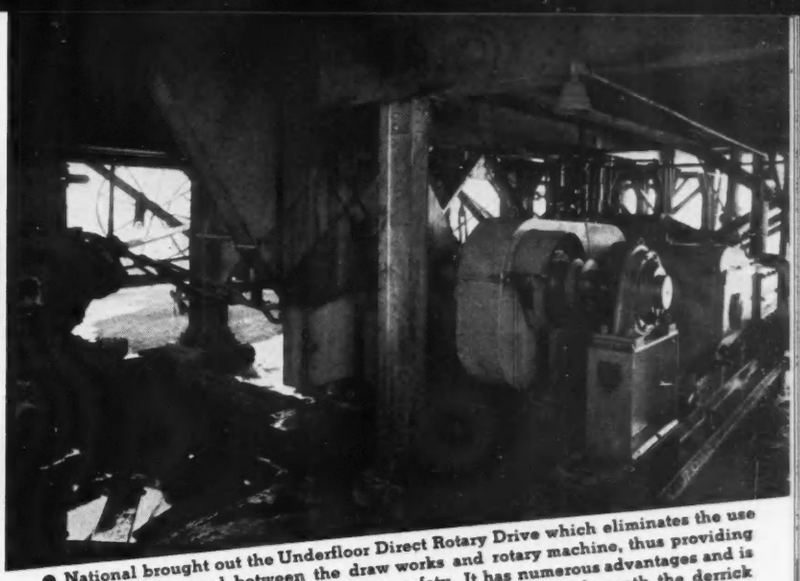
South Texas, already a prime factor in both Texas and national crude reserves, should maintain its position through future development and exploration. There is little doubt but what this area will see a continuance of the present development program. This should lead to the discovery of many more shallow pools as well as the exploration of deeper possibilities.

New Sands Discovered in Southwest Texas During First Eight Months of 1939

COUNTY	FIELD	COMPANY WELL AND LOCATION	Date Completed	Elevation	Depth (Feet)	Producing Formation	Initial Production	Gravity	Choke (Inches)	Lbs. Pressure	
										Tubing	Casing
Aransas	McCampbell	Culton, Barry 2; Orrick survey	7-17-39		7352-7360	Frio	46	55	1/2	2000	2200
Brooks	Kelsey	Humble, McGill Bros. 5; I. Rivas grant	4- 4-39		6099-6107	Jackson	65	42	1/2	1050	1400
Duval	Longhorn	Longhorn, Miller 2-A; Agus Poquita grant	2-15-39		4033-4038	Jackson	105	44	1/8	575	740
Duval	S. R. C.	Transwestern, DCRC 21 (297); survey No. 297	6- 8-39	487	1045-1059	Cole	65	20	Pump	....	....
Goliad	Weser	Mar-Tex, Albrecht A-1; Hancock survey	3-21-39		5229-5239	Cook Mountain	28	42	1/4	1560	1650
Hidalgo	La Blanca	Pantano, Harding 1; La Mestena grant	8- 4-39	85	8019-8074	Frio	80	55	3/8	3850	....
Hidalgo	La Blanca	Pantano, McDougal 1; La Blanca grant	2-21-39	80	7450-7480	Frio	100	48	1/2	720	....
Hidalgo	McAllen	Harding, Card 1; Blk. 8, Hidalgo grant	1-16-39		7402-7498	Frio	100	55	3/8	3100	....
Hidalgo	Samfordyce	Fohs, Sullivan 1; Porcione 39	3-20-39		3422-3436	Frio	76	24.8	19/64	1100	1410
Hidalgo	Samfordyce	Messenger, Chapa 1; Porcione 40	5- 4-39	220	3936-3983	Frio	3 M Gas	Gas	1 1/2	1375	1500
Jackson	Cordelle	Porter, Drushel 2-B; I & G. N. R. R. survey	7-17-39	105	2727-2749	Catahoula	74	24	1/8	150	350
Jackson	Francitas	Crosby, Kopnicky 1; Patrick Green survey	5-25-39		7918-7967	Frio	156	42	3/4	1050	2500
Jackson	Francitas	Mills Bennett, Lowrance 1; John D. Newell survey	7-17-39		8575-8640	Frio	19	52	1/2	2860	2950
Jackson	West Ranch	Glasscock, Drummond 1; Musquez grant	6-21-39	45	5459-5543	Frio	187	32.1	3/4	550	1025
Jim Wells	Ben Bolt	Mosser et al, Perales 1; Los Altos grant	8- 8-39		5373-5390	Vicksburg	20 M Gas	Gas	..	....	2100
Jim Wells	Clark	Gravis & Doran, Muil 1; Poitevent survey	5- 3-39		5326-5330	Vicksburg	161	42	3/4	900	1325
Jim Wells	East Premont	Transwestern, Dunlap 1; SK & K survey No. 181	2- 8-39	142	5466-5480	Frio	65	54	1/4	1500	400
Jim Wells	Reynolds	Graham & Mosser, Mosser 4-A; Frank survey	8-24-39	...	4817-4821	Frio	71	31	3/4	2750	500
Jim Wells	Reynolds	Morgan, Fee 2-F; San Antonio de Agua Dulce grant	8-21-39	...	5111-5116	Frio	130	41	1/8	1475	2050
Live Oak	White Creek	Coquat, Holland & Smith, Boham 1; Sec. 59	5-28-39		1401-1410	Jackson	150	21	Pump	....	....
Live Oak	Oakville	Simmons, McGriff 9-B; Romaro survey	7-31-39		1814-1836	Hockleyensis	124	20	1 1/2	225	580
Nueces	Clara Driscoll	Wellington, Richardson 1; Sec. 111	4- 5-39	67	6557-6566	Frio	151	37	1/4	200	475
Nueces	N. Agua Dulce	Union, Harper 1; Jaen survey	5- 6-39		5575-5593	Frio	106	37.5	jet.	....	....
Nueces	Richard King	Southern Minerals, King 1-A; Sec. 30	5- 4-39		5391-5414 1/2	Frio	572	39	1/4	1250	2075
Nueces	Richard King	Southern Minerals, King 2-B; Sec. 30	7-17-39	138	5251-5258	Frio	157	37	3/4	650	1150
Nueces	Richard King	Southern Minerals, King 16; Sec. 32	4- 9-39		6133-6143	Vicksburg	38	38	1/4	685	2375
Refugio	La Rosa	Morgan-Gulf, Rooke A-1, Aldrete grant	4-23-39		5708-5714	Frio	113	31	1/8	700	1350
Refugio	La Rosa	Morgan-Gulf, Rooke A-2; Aldrete grant	6- 3-39		5410-5415	Frio	126	36	1/8	675	925
Refugio	La Rosa	Rutherford, Shirmer B-1; Aldrete grant	2-22-39		6108-6114	Frio	154	36	1/8	625	950
Refugio	Tomoconnor	Quintana, Williams 10-A; CEIP & M survey	5-27-39		5175-5183	Frio	2 1/2 M Gas	Gas	1/8	....	2200
Refugio	Woodsboro	Rutherford, Oppenheimer 1; A de la Vina grant	4-29-39		4190-4200	Frio	1/2 M Gas	Gas	1/8	1500	1600
San Patricio	East Mathis	Seaborad, Blumberg 1; Sec. 13, Paul's subdivision	7-17-39		4417-4422	Frio	4 1/2 M Gas	54	3/8	1450	1600
San Patricio	East White Pt.	Houston, Baldwin 4; Sec. 47	Not Complete	69	4920-4940	Greta	None	....	..	....	....
San Patricio	East White Pt.	Houston, Baldwin 5-A; Fulton survey	5-20-39		2495-2505	Catahoula	5 M Gas	Gas	1/8	....	550
San Patricio	East White Pt.	Plymouth, Brooks 3; Sec. 61, Paul's subdivision	5-13-39		4010-4015	Catahoula	5 M Gas	Gas	1/8		550
San Patricio	White Point	Easterwood & Cage, Dunn 1; Manuel Flores survey	2- 4-39		5672-5676	Frio	154	29	3/4	305	180
Schleicher	Cooper-Page	Lone Star, Page 1; G H. & S A survey	6-19-39	2401	5678-5745	Bend Lime	259	37.8	13/64	100	300
Starr	North Ricaby	Howard Bass, Lester 1; Porcion 82	8-23-39	388	1432-1437	Frio	100	21.5	Pump	....	....
Starr	Sun	Sun, McKinney 3; Smith survey	1-11-39	...	4652-4673	Frio	119	46	1/8	750	650
Starr	Sun	Sun, McKinney 4; Smith survey	2-21-39	...	4610-4623	Frio	5 M Gas	Gas	1/8	....	2000
Starr	Sun	Sun, Olivarez 2; C C S D & R G N G survey	3-22-39		4111-4142	Frio	40	52	1/8	1890	....
Starr	Sun	Sun, Speer 1; C C S D & R G N G survey	4-12-39	379	4908-4972	Frio	208	46	1/4	800	1475
Victoria	Keeran	Gulf, Keeran 14; Martin de Leon grant	1-21-39	50	6057-6081	Frio	207	42	1/2	1600	1875
Victoria	Keeran	Union, Keeran 9; Martin de Leon grant	3- 9-39	...	4802-4807	Frio	5 M Gas	Gas	1/8	....	1300



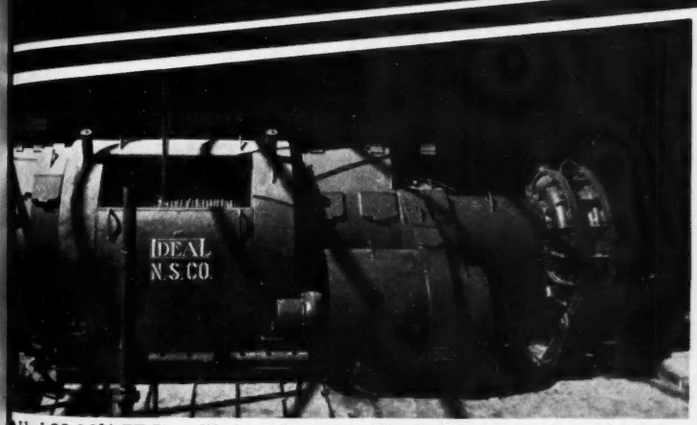
In line with other Ideal deep drilling equipment, the heaviest duty slush pump ...e is now available for oil field use—the 15½ x 9¼ x 22. Two of these pumps are ...wn above, operated by steam from 500-pound Broderick domeless boilers, at ...erior's Moodie No. 1 well.



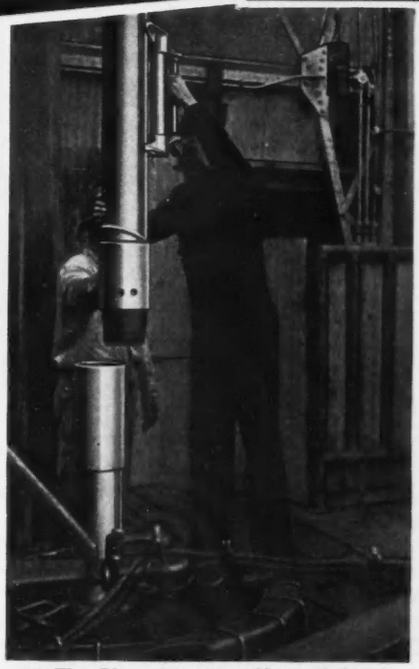
● National brought out the Underfloor Direct Rotary Drive which eliminates the use of a chain and guard between the draw works and rotary machine, thus providing more clear derrick floor space and greater safety. It has numerous advantages and is available in several sizes. The engine may be located either beneath the derrick floor or outside the derrick.

KEEPING OUT IN FRONT!

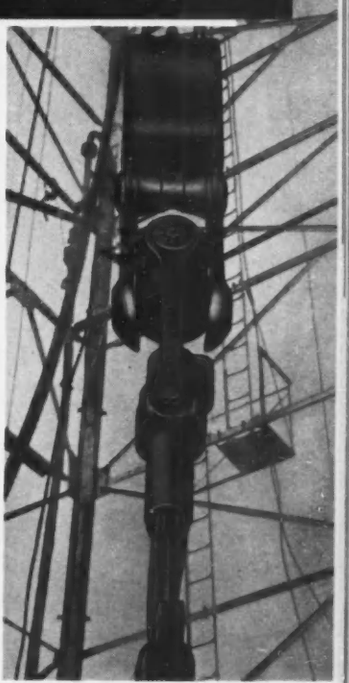
● Maintaining the front position necessitates continual progress. Constant research and pioneering backed by years of manufacturing experience have enabled The National Supply Company to hold this favored position. These factors are reflected in close cooperation with actual field operations, outstanding achievements in engineering design, and improved manufacturing methods. Consequently, National is equipped to solve any of today's drilling problems and anticipate many of tomorrow's. National's policy of "Keeping Out In Front" assures the industry of the best in oil field equipment for the promotion of safer and faster drilling at lower costs.



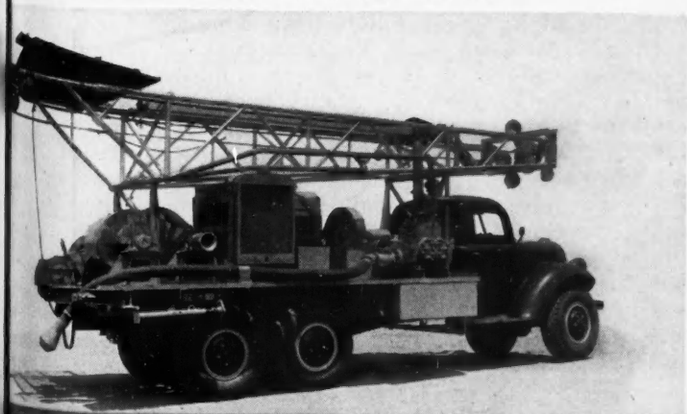
Ideal 23-10½-FE Draw Works at Superior's Moodie No. 1 symbolizes National's ...dership in fast and deep drilling equipment. It embodies many distinctive ...tures and is built for drilling to any depth now anticipated.



● The Alignascope is a National development. It is a device for checking the drilling string for imperceptible bends which are the cause of many avoidable failures . . . A straight drilling string is positive assurance of safer, faster and more economical drilling.



● The need for more accurate knowledge of actual drilling loads is fulfilled by the Ideal Hill Hydraulic Weight Indicator. Suspended between the traveling block and rotary hook, its direct, accurate readings make possible the proper bit loads so essential to modern drilling.



Complete portable rotary rigs in various sizes for geophysical work and other ...llow drilling are also a National feature. They permit fast rigging-up and drilling. ...d have proven their superior performance. They are decisive evidence of the ...e range of Ideal drilling equipment now available to the trade.

NATIONAL

THE NATIONAL SUPPLY COMPANY

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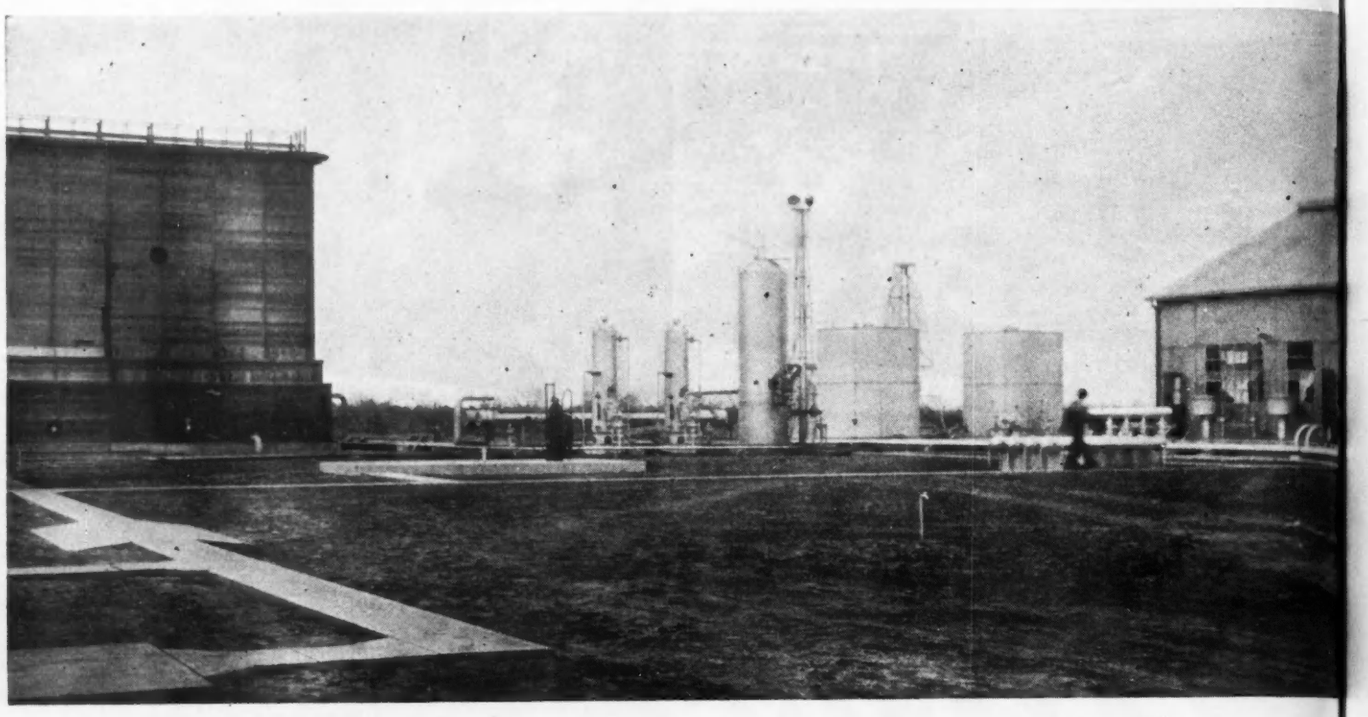

Corpus Christi Corporation's recycling plant in the Stratton field, Nueces County. Gas is separated at 1200 pounds and compressed to 3000 pounds for injection into the producing sand.

South Texas Growing as a Distillate Producing Area

By EARL S. POST, Staff Writer

WITH 49 fields producing 1,112,588 barrels of condensate during the first six months of 1939, this type of production becomes one of the important factors in South Texas reserves. This figure undoubtedly will show a material increase during the last period of the year as new recycling plants are being completed in several fields.

During the first eight months of the year, there were seven fields discovered in the condensate or distillate group, while 11 of the new sands were found capable of producing this type of fluid. These discoveries compare with 17 new crude fields and 26 new crude sands, thus indicating that the trend definitely is toward the high gravity gas/oil production.

Contracts let on projects announced during the first eight months of the year for recycling and condensate plants and additions to present ones exceed $4,000,000 with additional units planned in several fields. Development of these fields to supply wet gas for the plants will bring well in excess of 100 wells to cost approximately $3,500,000. Pipe line construction to tidewater, blending units and other facilities account for another $1,000,000, which would mean that condensate development alone has totaled $8,500,000 in South Texas during 1939.

A survey of the condensate and recycling plants operating, under construction or definitely assured on October 1 show a daily capacity of 978,250,000 cubic feet of gas and 991,400 gallons of distillate or condensate. In addition, thousands of gallons of condensate are handled daily through high pressure separators and the gas taken by commercial pipe lines or used for field development, such as drilling and

How you can lengthen wire rope life

BY PROPER SHEAVE MAINTENANCE

No. 3 in a series of informative articles for wire rope users, prepared by the MACWHYTE *(Wire Rope) Company.*

What to Watch For:

Keep a sharp look-out for these two wire rope enemies

(a) corrugated sheaves,
(b) pinching sheave grooves.

To get the most for your wire rope dollar, make sure that sheaves and wire rope work together in harmony. Grooves must be smooth and must also be slightly larger than the diameter of the rope to prevent pinching and excessive wear.

Contrary to popular opinion a sheave groove usually wears smaller, not larger.

Naturally, therefore, the deeper a sheave is worn the more it pinches the rope. Friction is increased, and the rope is forced to do more than its normal share of work. Pinching shortens the rope's service life.

Corrugations. In a sheave groove, corrugations are caused by the wire rope, yet the rope will not continue to engage these corrugations (as, for example, a chain engages a sprocket). A slight twist of the rope, or a very small change of lay will prevent wire rope from tracking in the corrugation. Corrugations in a sheave are an indication either that the sheave is too small or that the material in the sheave is too soft.

How You can Save Wire Rope Dollars.

1. *Periodically inspect your sheaves and recondition them.* Make sure the sheave runs true and does not wobble on its bearing; keep the groove free from roughness or burrs of any kind; make sure the groove is *larger* than the wire rope.

2. *When buying new sheaves . . .* see that they are made of material that will stand up under the rope pressures encountered*— and make sure that the grooves are of proper size for the rope.

3. *REMEMBER,* the longer you delay reconditioning your sheaves, the more you reduce the life of your rope. The best wire rope in the world loses every time in a battle with corrugated and pinching sheaves.

Above. *A "stuck" roller. Note how the rope has cut into the roller; in a short time, this "sawing" action will ruin the rope. Proper installation and maintenance would have saved many dollars here.*

At Right. *This deeply scored sheave will take a heavy toll in rope life from the best of ropes.*

Handy Reference Table on Groove Diameter Tolerances

The following table gives the tolerances recommended for groove diameter for various sizes of rope. The tolerances shown are for diameter of groove and are added to nominal diameter of rope.

Nominal Diameter of Rope	Min. Clearance before sheave replacement or re-machining of grooves	Clearance for new or re-machined grooves	
		Minimum	Maximum
1/4" and 5/16"	1/64"	1/32"	3/32"
3/8" to 3/4"	1/32"	3/64"	7/64"
7/8" to 1 1/8"	3/64"	1/16"	1/8"
1 1/4" to 1 1/2"	1/16"	5/64"	11/64"
1 5/8" to 2"	3/32"	7/64"	13/64"
2 1/8" to 2 1/4"	3/32"	7/64"	15/64"

*More complete information on "Sheaves and Drums" are given in the MACWHYTE General Wire Rope Catalog G-13 together with other useful information—your copy furnished on request.

REPRINTS AVAILABLE *of this and other informative articles on wire rope. Simply address: Macwhyte Co., Dept. OW-10, Kenosha, Wis.*

MACWHYTE COMPANY. Home Offices, Kenosha, Wisconsin. Manufacturers of PREformed, Internally Lubricated, Laboratory Tested and Field Proved Wire Ropes and Braided Wire Rope Slings, for every use . . . New York . . . Pittsburgh . . . Chicago . . . Ft. Worth . . . Portland . . . Seattle . . . San Francisco. (Distributors throughout the U.S.A.)

jetting. If all plants in South Texas were running at capacity, it would be possible to produce near 19,000 barrels of condensate per day. This figure likely would be around 25,000 barrels per day by wells producing gas through individual separator units for commercial purposes.

The condensate production becomes an important factor for several reasons. It is unprorated. So long as there is an outlet for the gas, or it is returned to the formation, a well may be produced at its limit. At the same time, prices for the fluid are much higher than for ordinary crude. Economically, the tremendous increase in output of this high gravity fluid may have a tendency to overbalance the market. It ranges upward of 51 degrees corrected and in most cases it is of a character closely corresponding to aviation grade gasoline.

Under revised methods of production resulting from modern engineering advancements, condensate development may be expected to continuously gain in the South Texas Gulf Coast. Many areas noncommercial, except for gas, will be placed in the leading drilling columns within the immediate future. Typical is Agua Dulce, Nueces County, which for years was looked upon as a worry to the United Gas Corporation except for its gas possibilities, comes to fore as a potential major reserve. New recycling plants are being erected in the field for processing of fluids from sands ranging from 4500 to 6800 feet. Operators in the Saxet field, Nueces County, are turning their heretofore hazardous gas/distillate sands into sources of real profit.

Production of Condensate from South Texas Fields First Six Months of 1939

FIELD	County	Total Barrels
Agua Dulce	Nueces	144,154
Agua Dulce, South	Nueces	8,116
Alice	Jim Wells	12,056
Alice, East	Jim Wells	13,005
Bandera	Jim Wells	106
Bentonville-King	Jim Wells	1,470
Bird Island	Kleberg	192
Burnell	Karnes	616
Carolina-Texas	Webb	555
Chapman	Nueces	3,364
Chittim	Maverick	4,334
Clara Driscoll	Nueces	23,651
Clark	Jim Wells	582
Cooper-Page	Schleicher	876
Dinero	Live Oak	118
Edna	Jackson	593
Flour Bluff	Nueces	1,510
Fox	Refugio	177
Francitas	Jackson	7,862
Greta	Refugio	8,007
Heyser	Calhoun	1,444
Hoard's Creek	Goliad	72
Keeran	Victoria	47
Kohler, North	Duval	204
La Bahia	Goliad	Shut in
La Blanca	Hidalgo	34,874
La Gloria	Jim Wells	1,955
La Reforma	Starr	1,050
La Rosa	Refugio	12,441
McAllen	Hidalgo	1,255
McCampbell	Aransas	14,201
McFaddin	Victoria	5,034
Mercedes	Hidalgo	15,525
Mestinas	Hidalgo	17,026
Mt. Lucas	Live Oak	1,964
Oakville	Live Oak	625
Placedo	Victoria	13,800
Port Lavaca	Calhoun	1,119
Premont, East	Jim Wells	2,892
Refugio	Refugio	117,531
Rincon	Starr	409
Riverside	Nueces	724
Samfordyce	Hidalgo	4,307
Saxet	Nueces	426,784
Sinton	San Patricio	1,557
Stratton	Nueces	190,840
Sun	Starr	752
Sweden	Duval	3,155
Sweden, North	Duval	1,675
Tomoconnor	Refugio	791
White Point	San Patricio	7,111

The above figures include production from wells connected to recycling plants, gas lines and wells producing oil with gas/oil ratio in excess of 100,000 cubic feet to one barrel. This would mean that a small amount of crude is included in the above figures.

Finding of these reserves, however, has changed the complexion of the development in South Texas. Old field patterns calling for as many tests to a tract as the law would allow have been revised to include spacing running as high as 1000 acres to the well. This means unitization of leases and consolidation of operating rights under a single head. This may be the forerunner of a more conservative development program even in the production of crude oil.

Drilling also must be carried on in a more conservative and precautious manner. The distillate or condensate sands are found bearing pressures ranging up to 7000 and 8000 pounds at the bottom of the hole. Specially weighted muds, carefully checked, are required to prevent the wells from kicking back and possibly going out of control. This is especially borne out in the numerous craters which have engulfed many thousands of dollars worth of drilling equipment.

Recycling is new to South Texas. Up to one year ago, only one small experimental plant was operating in Agua Dulce field, Nueces County. It had been determining the possibilities of high pressure condensate separation with the residue gas being returned to the formation under one stage of pressure increase. This plant produced a limited amount of condensate under this method, but its developments have proved of utmost interest to operators in this area.

The first plant of major proportions was completed early in 1939. Since that time, there has been a constant expansion with new plants either being built or announced along the entire trend. This work obviously will increase with the proof of certain factors in this type of oil production. Spacing, methods of separation, injection of gas into input wells, redistribution of gas through the formation, recoveries, etc., will be studied and new methods employed in efforts to further increase potential profits.

Condensate is still much of an unknown quantity. Although much study has been advanced on the in hole conditions of the gas and fluid or vapors and the saturation, etc., the true recoveries will only be known when definite curves can be plotted on production charts. Agua Dulce, for instance, will prove of utmost value as it has several sands which are virtually untouched from a production standpoint. A series of plants in the field should create a much quicker recovery, thus providing more immediate information. These data, therefore, will be vital to the future plans of the dozens of condensate areas of South Texas.

Condensate Plants in South Texas on October 1, 1939

COMPANY	Location	Type	DAILY CAPACITY		Status
			Cubic Feet Gas	Gallons Fluid	
Agua Dulce Gasoline Co	Agua Dulce	High-pressure recycling	80,000,000	75,000	Operating
Coastal Recycling Corp	Agua Dulce	High-pressure recycling	135,000,000	275,000	Building
Corpus Christi Corp	Stratton	High-pressure recycling	50,000,000	50,000	Operating
The Coronado Corp	La Rosa	Absorption	10,000,000	7,500	Planned
The Clymore Co	Refugio	Absorption	30,000,000	25,000	Operating
W. R. Davis Co., Inc	East Alice	High-pressure recycling	66,000,000	59,000	Proposed
W. R. Davis Co., Inc	Rincon	High-pressure recycling	60,000,000	55,000	Proposed
Duval Gasoline Co	Benavides	Refrigeration process	1,250,000	2,000	Operating
Ed Galt et al	Weslaco	High-pressure recycling	50,000,000	40,000	Planned
Humble Oil & Refining Co	Heyser	Absorption	25,000,000	50,000	Operating
Humble Oil & Refining Co	Flour Bluff	Absorption	15,000,000	15,000	Operating
L. M. Lockhart	Agua Dulce	High-pressure recycling	60,000,000	50,000	Contract let
Manhattan Gas Co	Sinton	Low-pressure absorption	20,000,000	20,000	Operating
McCollum Exploration	La Blanca	High-pressure recycling	50,000,000	63,000	Building
Natural Gasoline Corp	Aransas Pass	Low-pressure absorption	120,000,000	55,000	Operating
Process Oil Co	Agua Dulce	High-pressure recycling	15,000,000	4,200	Operating
Sinclair Prairie Oil	E. White Pt.	Absorption	7,500,000	7,000	Contract let
Southern Minerals Corp	Saxet	Low-pressure absorption	75,000,000	40,000	Operating
United Gas Pipe Line	Refugio	Absorption	50,000,000	25,000	Operating
United Gas Pipe Line	Agua Dulce	Absorption pressure and cracking	50,000,000	35,000	Operating
J. H. Webb	Chittim	Drip-separator	2,500,000	700	Operating

G-MV TAKES LESS SPACE

...ONE REASON WHY TIDEWATER-SEABOARD CHOSE THREE MORE!

More and more, the oil and gas industry is coming to know that Type G-MV's are space-saving, dollar-saving compressor units! Their compact "V-and-Angle" design cuts foundation and housing costs, makes installation easy and economical. Their 100-hp per cylinder gives more power in less space.

These compact, power-packed features influenced Tidewater-Seaboard companies in recently purchasing three more Type G-MV's for their North Cayuga compressor station.

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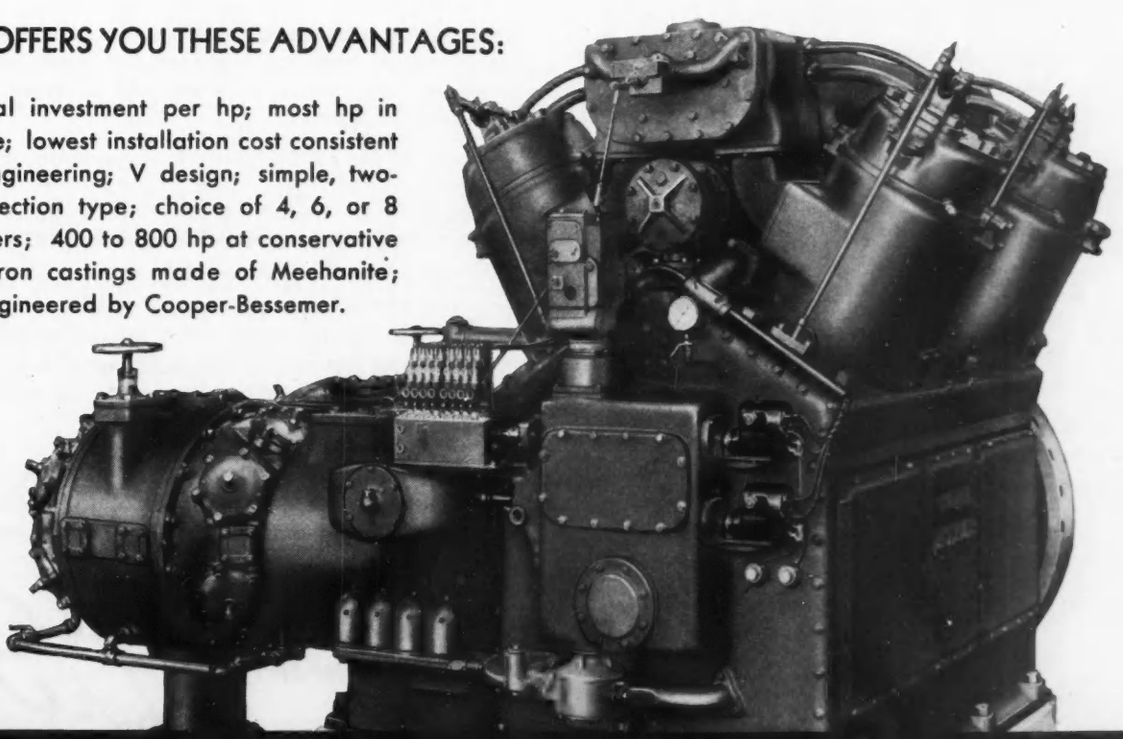

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GOOD NEWS
FOR WELL OPERATORS

New Designs of Bethlehem - International Pumping Units offer 4-WAY Savings

Want to increase your profits? Want to cut the cost-per-barrel of bringing your oil above ground?

Here's good news for economy-minded operators. A new series of Bethlehem-International Pumping Units has been designed to meet modern requirements in pumping efficiency. These new designs are the result of over thirty years of experience in supplying equipment to pump oil economically.

Available in a wide range of sizes and strokes, these Bethlehem-International Pumping Units offer you four-way savings.

LOW UNIT COST—Call at the Bethlehem-International Store nearest you and find out how little it costs to buy one of these new streamlined pumping units.

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Let a Bethlehem-International representative help you to select the pumping unit best adapted to your well operating conditions. You may be agreeably surprised at how much you can save by installing one or more of these new B-I Pumping Units—designed for economy.

Call **BETHLEHEM-INTERNATIONAL** *for Service*

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Southwest Texas Development, Production and Reserve Data by Fields and Counties

COUNTY AND FIELD	Discovery Date	AMOUNT OF ACREAGE: Acres Proved	Acres Undeveloped	Acres Developed	No. of Wells July 1, 1939	Daily Field Allowable July 1, 1939	DAILY PRODUCTION July 1, 1939: Field	Well	BARRELS CUMULATIVE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	ESTIMATED BARRELS OF ULTIMATE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	REMAINING RESERVE: Total Field	Per Acre
Aransas—San Patricio	**7-36**	**3,100**	**820**	**2,280**	**235**	**12,932**	**9,650**	**41**	**2,862,123**	**4,365,349**	**1,916**	**13,680,000**	**16,416,000**	**7,200**	**12,050,651**	**5,285**
McCampbell	7-36	3,100	820	2,280	235	12,932	9,650	41	2,862,123	4,365,349	1,916	13,680,000	16,416,000	7,200	12,050,651	5,285
Bastrop County	**11-28**	**830**	**45**	**785**	**48**	**827**	**757**	**16**	**3,112,648**	**3,224,591**	**4,108**	**5,195,782**	**5,300,782**	**6,753**	**2,076,191**	**2,645**
Carroll	9-32	60	None	60	7	14	15	2	88,119	93,225	1,556	120,000	120,000	2,000	26,775	446
Cedar Creek[1]	6-33	80	None	80	8	65	45	6	231,340	240,305	3,000	420,000	420,000	5,250	179,695	2,250
Hilbig	2-33	260	None	260	12	396	390	32	1,362,490	1,417,150	5,451	2,800,000	2,800,000	10,769	1,382,850	5,318
North Dale	9-32	160	None	160	10	106	105	10	513,860	531,515	3,322	710,000	710,000	4,437	178,485	1,115
Red Rock	5-39	80	45	35	2	120	80	40	None	None	None	None	105,000	3,000	105,000	3,000
Riddle	6-38	50	None	50	4	93	92	23	13,394	32,667	653	160,000	160,000	3,200	127,333	2,547
Schimmel Batts	5-31	20	None	20	None	None	None	None	5,782	5,782	289	5,782	5,782	289	None	None
Yost	11-28	120	None	120	5	33	30	6	897,663	903,947	7,532	980,000	980,000	8,167	76,053	634
Bee County	**4-29**	**5,040**	**None**	**4,600**	**201**	**4,113**	**4,047**	**20**	**17,220,728**	**17,848,437**	**3,880**	**28,470,319**	**28,580,319**	**6,211**	**10,731,842**	**2,331**
Beeville	9-35	20	None	20	None	None	None	None	701	701	35	701	701	35	None	None
Caesar	5-34	520	None	520	19	208	203	11	868,500	901,268	1,732	2,652,000	2,652,000	5,100	1,750,732	3,360
Dirks	12-34	920	None	920	89	2,191	2,190	24	4,430,000	4,770,435	5,186	8,464,000	8,464,000	9,200	3,693,565	4,014
Foley	2-35	180	None	100	4	35	35	9	24,750	29,500	295	52,000	52,000	520	22,500	225
Grayburg	6-30	20	None	20	None	None	None	None	20,255	20,255	1,013	21,000	21,000	1,050	745	37
Normanna	12-29	120	None	60	4	51	50	12	63,370	68,290	1,138	140,000	210,000	3,500	141,710	2,362
North Normanna	2-38	10	None	10	None	Depleted	None	None	3,766	3,766	377	3,766	3,766	377	None	None
Pettus[2]	4-29	1,220	None	1,180	37	777	775	26	8,490,200	8,603,104	7,291	9,794,000	9,794,000	8,300	1,190,896	1,009
Plumoner	8-35	220	None	160	13	279	275	21	132,000	172,612	1,079	896,000	896,000	5,600	723,388	4,521
Ray	3-35	420	None	420	11	250	250	23	1,370,500	1,412,981	3,364	2,940,000	2,940,000	7,000	1,527,019	3,636
Rutledge	5-35	20	None	20	None	None	None	None	22,352	22,352	1,118	22,352	22,352	1,118	None	None
Strauch	3-37	30	None	30	2	10	10	5	12,153	12,572	419	18,000	18,000	600	5,428	181
Tuleta	7-32	160	None	90	None	None	None	None	146,500	146,500	1,628	146,500	146,500	1,628	None	None
So Tulsita	9-38	30	None	30	1	17	16	16	280	1,803	60	10,000	50,000	1,666	48,197	1,606
Voss	6-36	100	None	100	2	8	8	4	72,000	73,260	733	100,000	100,000	1,000	26,740	267
West Tuleta	6-34	1,050	None	920	19	287	235	13	1,563,401	1,609,038	1,749	3,210,000	3,210,000	3,489	1,600,962	1,740
Bexar County	**1904**	**15,060**	**280**	**14,245**	**1,295**	**975**	**974**	**.75**	**12,655,258**	**12,818,127**	**892**	**14,778,274**	**14,778,274**	**1,037**	**1,960,147**	**145**
Alta Vista	-12	280	None	280	41	11	11	¼	108,450	110,913	396	224,000	224,000	800	113,087	404
Coffey	3-34	60	40	20	2	4	4	2	3,437	4,190	210	16,000	16,000	800	11,810	591
Cooksey	10-30	65	None	65	None	None	None	None	69,666	69,666	1,717	69,666	69,666	1,717	None	None
Eckert	9-28	950	None	860	119	112	112	1	807,238	827,426	962	1,500,000	1,500,000	1,744	672,574	782
Gas Ridge	-12	450	None	80	14	8	8	⅖	64,714	66,130	827	80,000	80,000	1,000	13,870	173
Lone Oak	10-34	10	None	10	None	None	None	None	3,733	3,733	373	3,733	3,733	373	None	None
La Coste	1-38	80	40	40	2	4	4	2	1,196	1,648	41	26,000	26,000	650	24,352	609
Mission	-04	275	None	200	None	None	None	None	68,875	68,875	344	68,875	68,875	344	None	None
Somerset	6-11	11,390	None	11,390	910	615	615	⅔	10,831,091	10,935,303	959	11,390,000	11,390,000	1,000	454,697	41
Von Ormy[3]	6-31	850	200	650	101	160	160	1½	114,337	137,875	211	680,000	680,000	1,043	542,125	833
Yturri-Southton	5-22	650	None	650	106	61	60	½	582,522	592,368	912	720,000	720,000	1,108	127,632	196
Brooks County	**6-26**	**3,460**	**1,840**	**1,560**	**45**	**1,859**	**1,826**	**41**	**360,663**	**547,219**	**351**	**4,920,000**	**8,510,000**	**5,455**	**7,962,781**	**5,104**
Alta Mesa	6-26	1,500	500	1,000	21	525	505	25	332,214	413,787	414	4,500,000	4,500,000	4,500	4,086,213	4,086
Alta Verde	3-36	160	None	100	2	6	6	3	23,000	24,388	244	100,000	100,000	1,000	75,612	756
Kelsey	9-38	1,800	1,340	460	22	1,328	1,315	63	5,449	109,044	235	320,000	3,910,000	8,500	3,800,956	8,262
Burleson County	**5-38**	**10**	**None**	**10**	**1**	**33**	**25**	**25**	**5,500**	**9,737**	**973**	**25,000**	**25,000**	**2,500**	**15,263**	**1,526**
Chreisman	5-38	10	None	10	1	33	25	25	5,500	9,737	973	25,000	25,000	2,500	15,263	1.526
Caldwell County	**8-22**	**5,900**	**160**	**5,740**	**1,300**	**18,429**	**18,268**	**14**	**111,342,604**	**121,884,307**	**21,233**	**146,446,000**	**146,446,000**	**25,511**	**24,561,693**	**4.278**
Buchanan	7-29	200	None	200	36	169	148	4	863,505	888,258	4,442	1,600,000	1,600,000	8,000	711,742	3,558
Dale	8-27	250	None	250	39	298	295	7½	1,205,253	1,237,233	4,949	1,550,000	1,550,000	6,200	312,767	1,251
Dunlap	7-31	160	40	120	11	90	86	8	300,718	310,643	2,588	444,000	444,000	3,700	133,357	1,112
Larremore	6-28	50	None	50	12	60	60	5	276,016	283,662	5,674	375,000	375,000	7,500	91,338	1,826
Lytton Springs	3-29	1,360	None	1,360	161	359	345	2	8,252,827	8,305,565	6,107	9,792,000	9,792,000	7,200	1,486,435	1,093
Luling[4]	8-22	2,220	None	2,220	752	11,089	10,980	15	70,117,279	71,695,469	32,295	82,140,000	82,140,000	37,000	10,444,531	4,705
Salt Flats	5-28	1,250	None	1,250	275	6,219	6,208	23	38,288,539	39,106,977	31,285	48,750,000	48,750,000	39,000	9,643,023	7,715
Walnut Creek	6-38	50	None	50	3	37	36	12	2,350	6,082	122	175,000	175,000	3,500	168,918	3,378
West Dale	9-37	360	120	240	11	108	110	10	36,177	50,416	210	1,620,000	1,620,000	6,750	1,569,584	6,540

[1]Includes N. Cedar Creek. [2]Includes Casden and Southwest Pettus. [3]Includes Macdonna. [4]Includes Branyon and Burdette Wells.

(*Continued page 52*)

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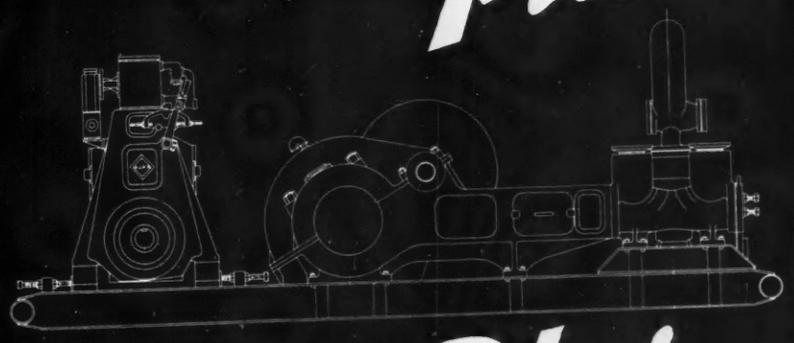
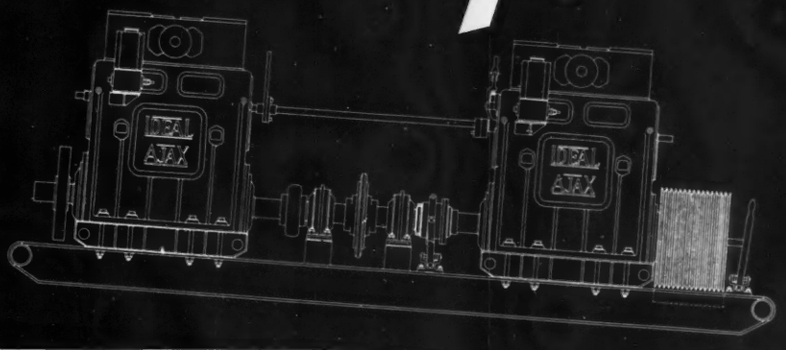
DIRECT ROTARY DRIVE

Plus



SLUSH PUMP DRIVE

Plus



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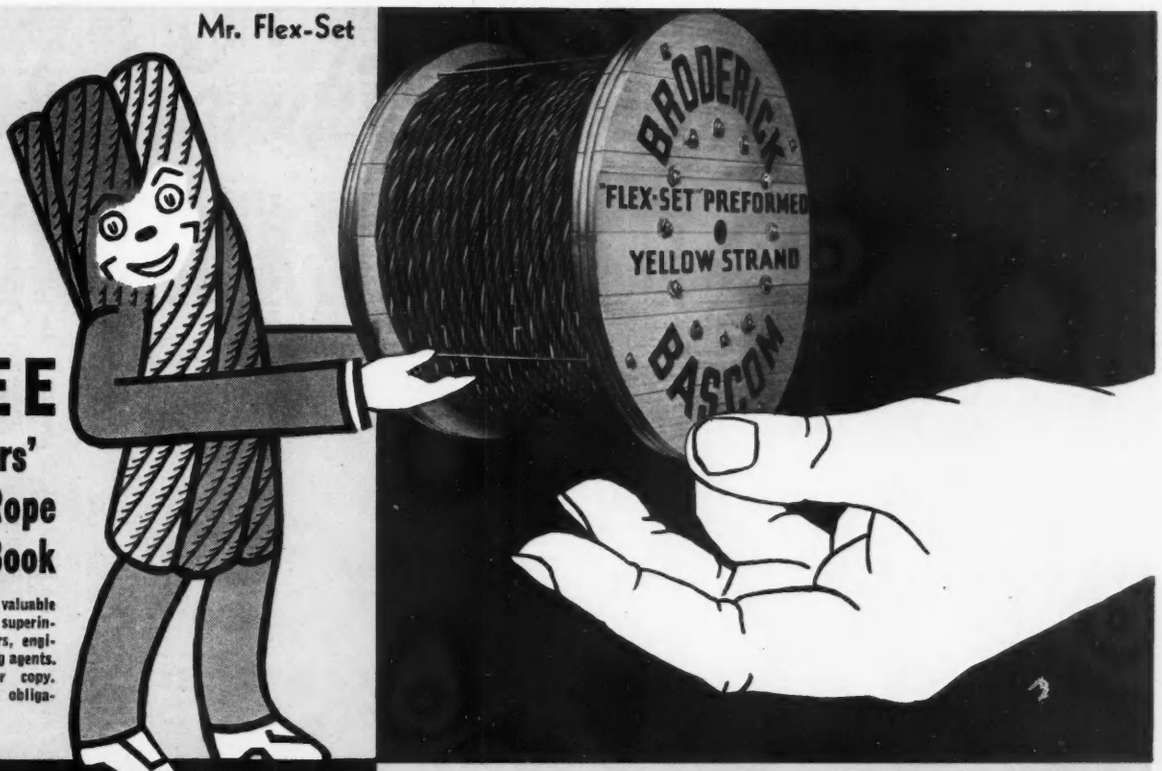
Southwest Texas Development, Production and Reserve Data by Fields and Counties—(Cont'd)

COUNTY AND FIELD	Discovery Date	AMOUNT OF ACREAGE: Acres Proved	Acres Undeveloped	Acres Developed	No. of Wells July 1, 1939	Daily Field Allowable July 1, 1939	DAILY PRODUCTION July 1, 1939: Field	Well	BARRELS CUMULATIVE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	ESTIMATED BARRELS OF ULTIMATE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	REMAINING RESERVE: Total Field	Per Acre
Calhoun County	**5-36**	**3,680**	**260**	**3,420**	**220**	**12,824**	**12,800**	**54**	**5,106,468**	**6,907,909**	**2,019**	**74,040,000**	**74,040,000**	**21,647**	**67,133,901**	**19,628**
Heyser	5-36	3,460	260	3,200	216	12,813	12,785	59	4,700,556	6,499,191	2,031	73,600,000	73,600,000	23,000	67,100,809	20,969
Port Lavaca	5-36	220	None	220	4	11	15	4	405,912	408,718	1,853	440,000	440,000	2,000	32,282	102
Duval County	**9-05**	**43,750**	**5,930**	**33,230**	**2,885**	**66,063**	**61,117**	**21**	**78,703,796**	**86,857,791**	**2,614**	**322,774,998**	**329,401,974**	**9,913**	**242,544,183**	**7,299**
Casa Blanca	5-38	520	180	340	33	561	560	17	74,100	166,312	489	1,050,000	1,720,000	5,059	1,553,688	4,570
Cedro Hill	11-38	320	180	100	10	200	200	20	471	15,277	153	35,000	1,220,000	12,200	1,204,723	12,047
Charamousca	9-35	360	100	100	16	445	436	27	181,829	254,190	2,542	800,000	800,000	8,000	545,810	5,458
Cole (old)	7-24	120	None	120	None	None	Depltd	None	1,044,152	1,044,152	8,701	1,044,152	1,044,152	8,701	None	None
Colmena	8-36	620	None	320	25	346	350	100	241,780	286,459	895	2,000,000	2,000,000	6,250	1,713,541	5,355
Driscoll	-24	1,800	700	1,100	31	2,144	2,150	69	1,479,006	1,769,691	1,609	9,250,000	9,625,000	8,750	7,855,309	7,141
Eagle Hill	10-33	1,000	360	640	52	958	950	18	754,060	883,823	1,382	4,100,000	5,760,000	9,000	4,876,177	7,618
El Mesquite	7-36	10	None	None	None	None	Depltd	None	976	976	98	976	976	98	None	None
Fitzimmons	5-38	1,150	350	800	61	3,050	3,050	50	213,181	669,688	837	4,200,000	7,360,000	9,200	6,690,312	8,363
Government Wells	8-28	7,590	None	7,590	710	12,639	12,586	18	38,042,696	39,809,667	5,245	85,008,000	85,008,000	11,200	45,198,333	5,955
Hoffman	9-33	4,200	800	2,860	271	5,863	5,825	22	1,961,311	2,797,623	978	20,500,000	21,736,000	7,600	18,938,377	6,622
Kohler	6-26	720	None	240	15	133	130	9	577,961	595,095	2,479	768,000	768,000	3,200	172,905	721
Labbe	11-34	640	None	210	15	300	300	20	169,157	209,996	999	1,155,000	1,155,000	5,500	945,004	4,501
Loma Novca	12-34	7,310	None	7,310	701	14,269	14,275	20	16,664,866	18,591,445	2,543	66,521,000	66,521,000	9,100	47,929,555	6,557
Loma Vista	2-36	20	None	10	1	10	9	9	13,730	14,875	1,488	25,000	25,000	2,500	10,125	1,013
Longhorn	12-38	1,400	780	620	18	1,512	1,526	85	2,071	136,693	220	100,000	7,440,000	12,000	7,303,307	11,780
Lundell	6-37	640	None	480	54	905	900	16	166,110	283,232	590	2,280,000	2,280,000	4,750	1,996,768	4,160
Muralla	5-39	160	140	20	1	50	50	50	None	None	None	None	60,000	3,000	60,000	3,000
No. Sweden	4-37	4,660	1,240	3,420	237	8,910	9,025	38	4,439,141	6,163,099	1,831	58,140,000	58,140,000	17,000	51,976,901	15,169
Palangana	6-28	50	None	50	None	None	Depltd	None	10,846	846	217	10,846	10,846	217	None	None
Peters	1-33	1,500	None	160	4	88	85	22	1,245,534	137,691	866	928,000	928,000	5,800	790,309	4,934
Piedre Lumbre	9-35	1,460	440	1,020	96	1,743	1,745	18	145,309	349,904	344	9,435,000	9,435,000	9,250	9,085,096	8,906
Priedres Pintas	9-05	150	None	150	3	28	25	8	145,309	146,621	977	225,000	225,000	1,500	78,379	523
Rancho Solo	11-35	820	120	240	19	460	455	24	31,134	96,005	401	750,000	840,000	3,500	743,995	3,099
Sarnosa	4-32	660	None	590	51	774	775	15	2,053,283	2,151,875	3,647	3,835,000	3,835,000	6,500	1,683,125	2,853
Seven Sisters[6]	5-05	4,350	200	4,150	439	9,791	4,790	11	8,649,632	9,782,188	2,357	47,725,000	47,725,000	11,500	37,942,812	9,143
Southland	4-39	80	60	20	1	100	100	100	None	6,346	312	None	100,000	5,000	93,654	4,688
S. R. C.	9-30	240	None	120	4	100	100	25	199,509	200,986	1,675	200,000	300,000	2,500	99,014	825
Sweden	2-37	520	140	220	8	183	220	21	153,426	180,412	820	1,870,000	1,870,000	8,500	1,689,588	7,680
Tesaro	6-38	360	140	160	7	460	460	65	32,386	90,835	568	750,000	1,200,000	7,500	1,109,165	6,932
Thomas Lockhart	8-37	320	None	60	2	41	40	20	10,830	11,789	196	270,000	270,000	4,500	258,211	4,304
Frio County	**12-34**	**2,010**	**1,350**	**660**	**19**	**673**	**675**	**35**	**828,512**	**922,655**	**1,398**	**5,200,633**	**5,200,633**	**7,879**	**4,277,978**	**6,481**
Pearsall	12-34	2,000	1,350	650	19	673	675	35	827,879	922,022	1,419	5,200,000	5,200,000	8,000	4,277,978	6,581
Shattel	11-38	10	None	10	None	None	Depltd	None	633	633	63	633	633	63	None	None
Goliad	**12-30**	**780**	**200**	**200**	**5**	**82**	**45**	**9**	**133,702**	**139,807**	**699**	**460,000**	**470,000**	**2,350**	**330,193**	**1,651**
Hoard's Creek	12-29	280	80	80	1	35	33	33	36,730	41,295	516	320,000	320,000	4,000	278,705	3,484
Sarco Creek	1-38	40	30	10	1	3	3	1	675	996	96	20,000	20,000	2,000	19,004	1,904
Slick	12-30	240	None	80	1	9	9	9	91,219	92,438	1,158	100,000	100,000	1,250	7,562	92
Weser	10-36	220	90	30	2	None	Shut-in	None	5,078	5,078	169	20,000	30,000	1,000	24,922	821
Gonzales County	**12-28**	**10**	**None**	**10**	**None**	**None**	**Depltd**	**None**	**24,635**	**24,635**	**2,463**	**24,635**	**24,635**	**2,463**	**None**	**None**
Ottine	12-28	10	None	10	None	None	Depltd	None	24,635	24,635	2,463	24,635	24,635	2,463	None	None
Guadalupe County	**7-29**	**2,590**	**290**	**2,390**	**352**	**10,659**	**10,636**	**30**	**46,263,340**	**47,734,616**	**19,973**	**74,708,750**	**76,109,546**	**31,845**	**28,374,930**	**11,872**
Darst Creek	7-29	1,860	None	1,860	319	10,369	10,365	33	45,375,639	46,769,078	25,145	73,000,000	74,400,000	40,000	27,630,922	14,855
Manford	8-29	40	None	40	1	20	20	20	390,360	426,892	10,672	500,000	500,000	12,500	73,108	1,827
Nash Creek	10-37	10	None	10	1	15	15	15	27,823	30,318	3,032	40,000	40,000	4,000	9,682	968
Nolte	8-37	10	None	10	None	None	Depltd	None	796	796	79	796	796	79	None	None
New Berlin	10-38	300	260	40	None	4	Depltd	None	175	600	15	8,000	8,000	200	7,400	185
Sal-Mar	6-32	10	None	10	None	None	Depltd	None	10,750	10,750	1,075	10,750	10,750	1,075	None	None
So. Darst Creek	8-35	110	None	110	9	112	98	11	296,192	316,172	2,874	440,000	440,000	4,000	123,828	1,126
Spiller	4-38	60	30	30	3	12	10	10	3,489	5,475	183	75,000	75,000	2,500	69,525	2,317
Staples	10-35	10	None	10	1	1	None	None	2,208	2,307	231	5,000	5,000	500	2,693	269
Zoboroski	7-31	180	None	180	17	126	125	7	155,908	172,228	957	630,000	630,000	3,500	457,772	2,543

[6]Includes Ignacio.

(Continued page 54)

Mr. Flex-Set



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"Flex-Set" Preformed YELLOW STRAND ROTARY LINES

AHEAD OF THE NEED

Many years ago this company developed a wire line for heavy duty, painted one strand yellow, and called it "Yellow Strand."

When rotary drilling was developed, this super-service line was found to fit draw works requirements perfectly—and economically.

Today this wonderful line is made even better for rotary drilling by shaping the wires and strands to a permanently helical form before they go into the line.

This new line is called "Flex-Set" Preformed Yellow Strand. It retains the famous strand of yellow; but its characteristics are very different.

"Flex-Set" Preformed Yellow Strand is practically pre-broken in. This permits full load and speed much sooner, with less danger of damage. It is a limp line, easy to handle, easy to reeve, easy to splice. To all this is added remarkable resistance to kinking, to fatigue, to drum crushing.

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You will profit by using "Flex-Set" Preformed Yellow Strand on your rotaries.

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The Continental Supply Company

Mid-Continent and Rocky Mountain Distributors

V-14 R-5

Southwest Texas Development, Production and Reserve Data by Fields and Counties—(Cont'd)

COUNTY AND FIELD	Discovery Date	AMOUNT OF ACREAGE			No. of Wells July 1, 1939	Daily Field Allowable July 1, 1939	DAILY PRODUCTION July 1, 1939		BARRELS CUMULATIVE PRODUCTION			ESTIMATED BARRELS OF ULTIMATE PRODUCTION			REMAINING RESERVE	
		Acres Proved	Acres Undeveloped	Acres Developed			Field	Well	Field to Jan. 1, 1939	July 1, 1939 Field	July 1, 1939 Acre	Field to Jan. 1, 1939	July 1, 1939 Field	July 1, 1939 Acre	Total Field	Per Acre
Hidalgo County	**9-34**	**12,360**	**5,200**	**6,470**	**156**	**3,836**	**4,330**	**28**	**6,302,375**	**7,800,330**	**1,206**	**31,780,000**	**32,950,000**	**5,093**	**25,149,670**	**3,887**
La Blanca	10-36	4,250	1,000	3,250	11	None	225	20	262,144	297,018	91	9,750,000	9,750,000	3,000	9,452,982	2,909
McAllen	8-38	2,000	1,760	240	1	None	20	20	892	2,147	9	50,000	600,000	2,500	597,853	2,491
Mercedes	4-35	1,300	540	560	6	None	100	17	146,100	161,625	290	2,520,000	2,520,000	4,500	2,358,375	4,210
Mestinas[6]	8-35	2,250	1,450	800	3	None	100	33	15,251	32,277	40	2,000,000	2,000,000	2,500	1,967,723	2,460
Samfordyce	9-34	2,400	450	1,460	134	3,836	3,885	29	5,876,000	7,305,275	5,004	16,900,000	17,520,000	12,000	10,214,725	6,996
Weslaco	2-38	160	None	160	1	None	Shut-in	None	1,988	1,988	12	560,000	560,000	3,500	558,012	3,487
Jackson County	**12-21**	**11,430**	**4,590**	**5,280**	**50**	**2,873**	**2,884**	**58**	**382,343**	**744,870**	**227**	**4,636,000**	**40,260,000**	**12,274**	**39,515,130**	**12,047**
Cordele	3-38	850	270	420	29	2,088	2,090	72	10,567	253,458	603	1,200,000	3,024,000	7,200	2,770,542	6,597
Edna	12-21	6,000	2,180	420	4	None	4	1	19,399	19,992	48	1,176,000	1,176,000	2,800	1,156,008	2,752
Francitas	11-38	800	440	360	4	254	285	71	4,041	36,202	101	500,000	2,340,000	6,500	2,303,798	6,399
Ganado	4-37	60	None	60	2	41	40	20	21,255	27,042	451	240,000	240,000	4,000	212,958	3,549
Mauritz	6-35	40	None	40	2	150	150	75	161,396	182,691	4,567	340,000	340,000	8,500	157,309	393
Texana	7-39	160	None	160	None	None	None	None	None	None	None	None	560,000	3,500	560,000	3,500
Vanderbilt[7]	5-34	20	None	20	1	60	25	25	146,295	154,890	7,745	180,000	180,000	9,000	25,110	1,255
West Ranch	8-38	3,500	1,700	1,800	8	280	290	37	19,391	70,595	33	1,000,000	32,400,000	18,000	32,329,405	17,957
Jim Hogg County	**6-24**	**4,170**	**420**	**2,235**	**100**	**841**	**822**	**8**	**7,928,237**	**8,029,446**	**3,593**	**9,847,797**	**12,541,797**	**5,611**	**4,512,351**	**2,018**
Alworth	11-26	650	None	80	None	None	Depltd	None	27,297	27,297	341	27,297	27,297	341	None	None
Colorado	8-36	1,000	420	580	5	417	410	82	75,320	118,412	204	1,250,000	3,944,000	6,800	3,825,588	6,596
Henne-Winch-Farriss	6-24	1,160	None	730	1	9	7	7	3,258,054	3,259,208	4,465	3,431,000	3,431,000	4,700	171,792	235
Las Animas	9-37	160	None	80	4	80	80	20	13,062	24,083	301	320,000	320,000	4,000	295,917	3,699
Randado	4-26	1,200	None	765	90	335	325	4	4,554,504	4,600,446	6,014	4,819,500	4,819,500	6,300	219,054	286
Jim Wells County	**11-29**	**1,399**	**6,120**	**4,270**	**155**	**7,063**	**7,305**	**47**	**1,495,065**	**2,456,784**	**575**	**21,510,000**	**33,992,000**	**7,960**	**31,535,216**	**7,385**
Alfred	2-38	320	200	120	4	240	240	60	30,167	46,199	385	150,000	600,000	5,000	553,801	4,615
Alice	4-38	1,620	None	1,280	59	3,386	3,380	58	449,927	1,007,061	786	10,400,000	1,776,000	9,200	10,768,939	8,414
Bandera	8-38	1,000	920	40	1	None	Shut-in	None	None	106	3	None	80,000	2,000	79,894	1,997
Ben Bolt	5-39	750	670	80	1	100	100	100	None	9,848	123	None	920,000	11,500	910,152	11,377
Bentonville-King[8]	4-32	3,650	930	720	20	1,094	1,100	55	479,854	616,011	856	4,800,000	6,840,000	9,500	6,223,989	8,644
Blucher	1-39	160	None	160	2	None	Shut-in	None	None	None	None	None	240,000	1,500	240,000	1,500
Camada	5-39	160	150	10	1	33	30	30	None	768	77	None	40,000	4,000	39,232	3,923
Clark-Muil	3-39	420	260	40	2	200	180	90	None	6,886	172	None	300,000	7,500	293,114	7,328
East Alice	4-38	1,350	570	480	26	1,349	1,525	59	3,900	131,159	273	300,000	4,176,000	8,700	4,044,841	8,427
East Premont	12-37	1,800	1,380	420	5	148	185	45	57,238	93,212	222	2,500,000	4,620,000	11,000	4,526,789	10,778
La Gloria	3-39	1,200	1,040	160	1	None	30	30	None	1,955	12	None	560,000	3,500	558,045	3,488
Magnolia City	4-39	20	None	20	1	100	60	60	None	6,249	312	None	120,000	6,000	113,751	5,688
Premont	4-33	1,000	None	600	29	402	400	15	456,551	518,157	864	3,000,000	3,000,000	5,000	2,481,843	4,136
Reynolds	6-39	20	None	20	1	None	65	65	None	1,001	51	None	180,000	9,000	178,999	8,949
Sandia	11-29	480	None	80	2	11	10	5	17,428	18,173	227	360,000	360,000	4,500	341,827	4,273
Wade City	7-39	40	None	40	None	None	None	None	None	None	None	None	180,000	4,500	180,000	4,500
Karnes County	**4-30**	**3,080**	**1,300**	**1,400**	**101**	**1,998**	**1,825**	**18**	**3,498,953**	**3,809,118**	**2,720**	**11,734,000**	**11,734,000**	**8,381**	**7,924,882**	**5,661**
Burnell	11-34	1,320	1,300	20	1	None	5	5	1,232	1,848	93	10,000	10,000	500	8,152	407
North Pettus	4-30	1,360	None	1,020	68	1,198	1,040	15	3,039,342	3,217,707	3,155	8,772,000	8,772,000	8,600	5,554,293	5,445
South Burnell	7-37	400	None	360	32	800	780	24	458,379	589,563	1,637	2,952,000	2,952,000	8,200	2,362,437	6,563
Kendall County	**3-30**	**20**	**None**	**20**	**None**	**None**	**Depltd**	**None**	**3,486**	**3,486**	**174**	**3,486**	**3,486**	**174**	**None**	**None**
Sisterdale	3-30	20	None	20	None	None	Depltd	None	3,486	3,486	174	3,486	3,486	174	None	None
Kleberg County	**-20**	**2,600**	**700**	**340**	**9**	**110**	**130**	**44**	**698,895**	**710,294**	**2,088**	**1,450,000**	**1,450,000**	**4,264**	**739,706**	**2,176**
Bird Island	11-38	800	700	100	2	44	70	35	None	2,538	26	450,000	450,000	4,500	447,462	4,474
Kingsville	-20	1,800	None	240	7	66	60	9	698,895	707,756	2,949	1,000,000	1,000,000	4,167	292,244	1,218
Live Oak County	**1-23**	**4,740**	**260**	**870**	**19**	**448**	**430**	**23**	**604,525**	**665,152**	**765**	**2,904,225**	**3,638,225**	**4,182**	**2,973,073**	**3,417**
Dinero	4-35	350	None	120	2	23	25	13	68,682	72,718	606	240,000	240,000	2,000	167,282	1,394
Fort Merrill	8-35	20	None	20	None	None	Depltd	None	29,225	29,225	1,461	29,225	29,225	1,461	None	None
McNeil	8-34	120	None	70	4	66	60	15	214,033	223,679	3,195	475,000	475,000	6,786	251,321	3,591
Mount Lucas	1-23	3,650	None	320	3	69	60	20	262,455	273,095	853	1,160,000	1,160,000	3,625	886,905	2,772
Oakville	-28	440	120	320	9	265	260	28	30,130	62,724	196	1,000,000	1,664,000	5,200	1,601,276	5,004
White Creek	2-39	160	140	20	1	25	25	25	None	3,711	186	None	70,000	3,500	66,289	3,314

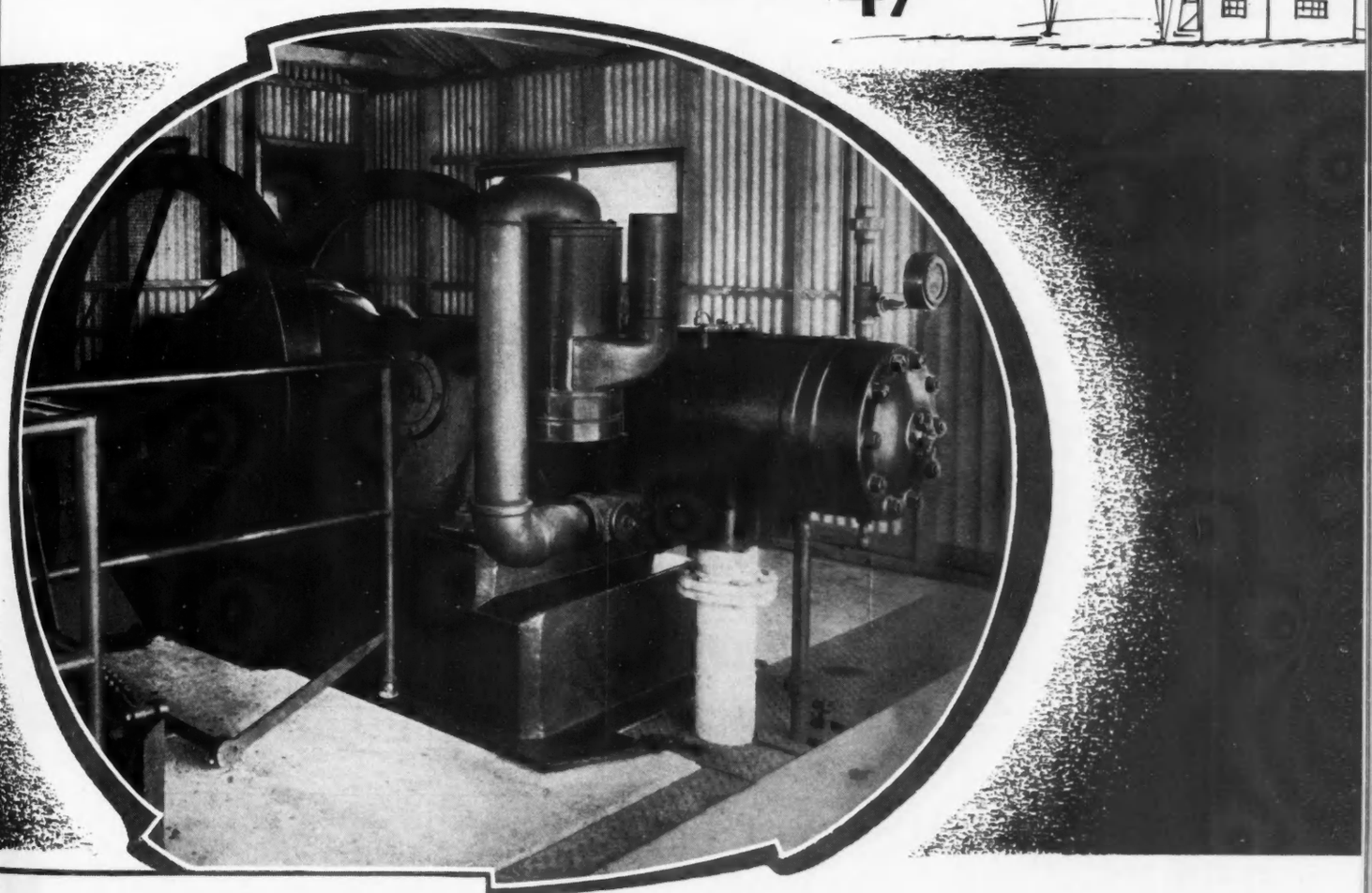
[6]Includes San Salvador. [7]Also see West Ranch. [8]Includes Richard King.

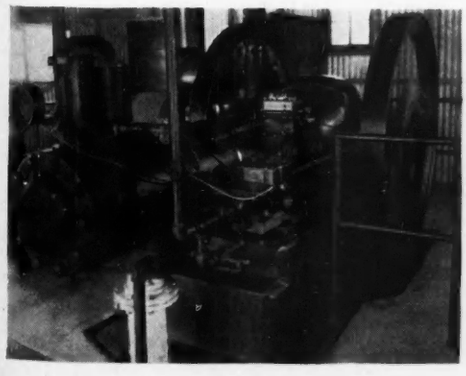
(*Continued page 56*)

Year After Year

An Outstanding Pumping Engine

FAIRBANKS-MORSE *model* 47





● Positive, force-feed lubrication, combined with a splash system, affords ample lubrication throughout the entire speed range.

● Available for operation on either oil or gas, the Model 47 is quickly and easily convertible to either fuel with minimum expense.

WHETHER it's pulling rods or tubing . . . running a bailer . . . drilling deeper . . . or straight pumping—you can rely on the dependability of the Fairbanks-Morse Model 47 Pumping Engine. The simple, two-cycle, slow-speed design has long appealed to the practical man who appreciates fundamental simplicity with freedom from frequent repair bills.

With extra-heavy flywheels and an oil field type governor, the Model 47 engine affords an exceptionally smooth pumping cycle, regardless of well conditions. Its wide speed range and reserve power particularly suit it for heavy-duty well servicing operations. Your nearest Continental representative will gladly furnish you complete information.

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"Serving the Oil and Gas Industries"

(Continued page 56)

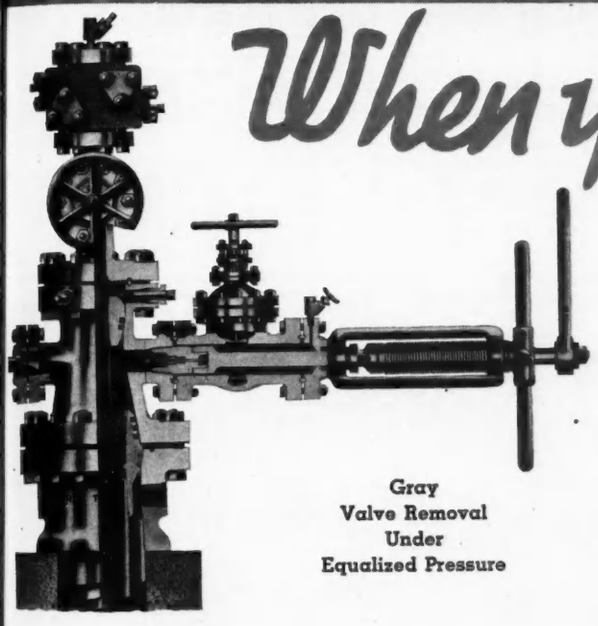
Southwest Texas Development, Production and Reserve Data by Fields and Counties—(Cont'd)

COUNTY AND FIELD	Discovery Date	AMOUNT OF ACREAGE: Acres Proved	Acres Undeveloped	Acres Developed	No. of Wells July 1, 1939	Daily Field Allowable July 1, 1939	DAILY PRODUCTION July 1, 1939: Field	Well	BARRELS CUMULATIVE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	ESTIMATED BARRELS OF ULTIMATE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	REMAINING RESERVE: Total Field	Per Acre
Maverick County	-29	800	None	100	1	None	12	12	32,000	36,334	3,633	100,000	100,000	10,000	63,666	6,367
Chittim	-29	800	None	100	1	None	12	12	32,000	36,334	3,633	100,000	100,000	10,000	63,666	6,367
McMullen County	-15	4,710	260	3,590	292	5,258	5,223	18	2,804,357	3,601,927	1,003	9,335,000	10,755,000	2,995	7,153,073	1,992
Calliham[9]	11-18	1,220	200	490	56	181	168	3	721,061	753,607	1,537	1,000,000	1,000,000	2,041	246,393	484
Crowther	-15	80	None	80	None	None	Depltd	None	35,000	35,000	437	35,000	35,000	437	None	None
Ezzell	6-37	1,750	None	1,420	140	4,198	4,200	30	743,769	1,363,585	960	4,750,000	5:964,000	4,200	4,600,415	3,240
Jacob[10]	4-32	1,400	None	1,400	81	559	550	7	1,207,007	1,286,832	919	2,940,000	2,940,000	2,100	1,653,168	1,181
Loma Alta	5-35	80	None	80	4	54	50	19	93,581	105,925	1,324	360,000	360,000	4,500	254,075	3,176
Munson	9-38	180	60	120	11	266	255	23	3,939	56,978	475	250,000	456,000	3,800	399,022	3,325
Medina County	11-23	1,150	None	680	46	25	31	3	176,291	183,275	269	863,042	863,042	1,269	679,767	1,000
Chicon Lake	6-29	750	None	280	37	20	20	½	29,901	34,729	120	140,000	140,000	500	105,271	380
Dunlay	4-38	30	None	30	1	1	1	1	930	975	33	10,000	10,000	333	9,025	300
Ina	11-23	340	None	340	8	4	10	1½	112,418	114,529	337	680,000	680,000	2,000	565,471	1,663
Taylor	2-26	30	None	30	None	None	Depltd	None	33,042	33,042	1,101	33,042	33,042	1,101	None	None
Milam County	2-21	4,250	None	4,250	401	194	195	½	3,544,004	3,580,184	843	4,250,000	4,250,000	1,000	669,816	157
Minerva-Rockdale	2-21	4,250	None	4,250	401	194	195	½	3,544,004	3,580,184	843	4,250,000	4,250,000	1,000	669,816	157
Nueces County	1-23	47,050	19,300	26,400	1,151	55,755	60,920	52	48,293,948	54,957,291	2,081	903,000,205	598,000	7,787,150	150,640,708	5,706
Agua Dulce[11]	12-28	14,000	5,600	8,400	61	None	1,200	20	506,930	676,503	80	32,000,000	36,000,000	4,285	35,323,497	4,205
Baldwin	7-35	320	None	240	8	343	340	42	570,795	624,411	2,602	1,920,000	1,920,000	8,000	1,295,589	5,398
Chapman	3-37	40	None	40	2	None	20	10	39,690	43,850	1,096	120,000	120,000	3,000	76,150	1,904
Clara Driscoll	11-35	980	260	720	69	2,944	3,040	44	879,487	1,276,421	1,773	5,500,000	6,624,000	9,200	5,347,579	7,427
Flour Bluff	7-36	2,380	None	2,380	111	5,114	5,100	45	3,420,934	4,174,940	1,754	5,236,000	5,236,000	2,200	1,061,060	446
London	1-37	120	None	60	2	44	45	22	44,678	50,775	846	210,000	210,000	3,500	159,225	2,654
Luby	6-37	2,850	650	2,200	122	9,394	9,400	12	1,653,107	1,930,596	878	30,000,000	400,000	17,000	35,469,404	16,122
North Luby	5-39	320	300	20	1	100	100	100	None	3,313	166	None	130,000	6,500	26,687	6,334
Minnie Bock	5-39	200	180	20	2	200	200	100	None	4,399	220	189,000	180,000	9,000	75,601	8,780
Riverside	12-38	600	80	20	2	200	180	90	None	14,371	719	None	90,000	4,500	5,629	3,781
Saxet	1-23	17,400	4,220	6,180	576	29,437	31,850	56	32,785,900	37,730,356	6,105	84,048,000	84,048,000	13,600	46,317,644	7,495
Saxet Heights	11-35	1,120	None	1,120	110	1,809	1,760	16	6,305,044	6,569,216	5,865	9,072,000	9,072,000	8,100	2,502,784	2,235
So. Clara Driscoll	5-37	800	440	360	18	1,111	1,120	62	146,157	293,420	842	2,000,000	3,960,000	11,000	3,666,580	10,158
Stratton	12-31	5,200	1,200	4,000	8	None	1,500	86	135,172	326,012	82	12,800,000	12,800,000	12,200	6,569,292	10,265
Turkey Creek	1-38	720	80	640	59	5,059	5,065	86	564,054	1,238,708	1,935	7,808,000	7,808,000	.....	.....	.....
Refugio County	5-31	27,520	6,290	18,830	845	33,763	34,530	41	71,923,202	76,509,641	4,063	437,090,000	467,050,000	24,803	390,540,359	20,740
Fox	5-31	920	320	600	18	814	815	45	2,961,216	3,070,147	5,117	10,200,000	10,200,000	17,000	7,129,853	11,833
Greta	6-33	4,900	None	4,240	206	7,367	7,425	32	22,294,346	23,403,108	5,520	80,560,000	80,560,000	19,000	57,156,892	13,480
La Rosa	7-38	3,600	2,380	1,220	46	3,784	3,850	14	46,109	81,709	66	3,500,000	19,520,000	16,000	19,438,291	15,934
Melon Creek	2-29	800	590	210	8	640	640	80	None	45,851	218	None	2,940,000	14,000	2,894,149	13,782
O'Connor	12-31	250	None	140	4	120	120	30	474,135	499,145	3,565	1,260,000	1,260,000	9,000	760,855	5,435
Refugio	9-20	6,450	1,000	3,820	177	5,212	5,850	34	35,117,463	36,026,160	9,430	51,570,000	51,570,000	13,500	15,543,840	4,070
Tomoconnor	6-34	10,600	2,000	8,600	386	15,826	15,830	41	11,029,933	13,383,521	1,556	290,000,000	301,000,000	35,000	287,616,479	33,444
San Patricio County	-20	15,130	4,220	5,320	349	33,406	33,434	96	16,958,824	20,483,157	3,850	89,470,000	100,770,000	18,941	80,286,843	15,091
Angelita	4-34	120	80	40	1	16	15	15	27,879	29,611	740	100,000	100,000	2,500	70,389	1,760
East Mathis	6-39	800	680	120	1	50	35	35	None	463	4	None	600,000	5,000	599,537	4,996
East White Point	2-38	3,500	2,340	1,160	89	7,605	7,630	86	380,017	1,130,281	975	17,000,000	27,260,000	23,500	26,129,719	22,525
Midway	4-37	260	None	260	13	934	925	34	304,857	440,100	1,693	1,430,000	1,430,000	5,500	989,900	3,807
Plymouth	4-35	3,200	320	2,880	170	16,760	16,800	40	13,672,697	15,902,483	5,522	60,480,000	60,480,000	2,100	444,577,517	15,474
Sinton	5-34	3,200	400	180	3	None	9	3	57,876	60,647	337	900,000	900,000	5,000	839,353	4,663
Taft	12-35	800	None	520	70	7,925	7,900	113	2,402,254	2,792,396	5,370	9,360,000	9,360,000	18,000	6,567,604	12,630
White Point	-20	3,250	400	160	2	116	120	60	113,244	127,176	794	200,000	640,000	4,000	512,824	3,205

[9]Includes So. Calliham. [10]Includes No. Jacob. [11]Includes No. and So. Agua Dulce.

(*Continued page 58*)

Why LEAVE EXPENSIVE EQUIPMENT ON YOUR WELLS TO RUST AWAY



Gray
Valve Removal
Under
Equalized Pressure

When you can use the

GRAY

SYSTEMS OF WELL CONTROL

AND GET:

★ FULL USE OF CONTROL EQUIPMENT WHEN IT IS NEEDED

and

★ FURTHER USE OF THIS EQUIPMENT ELSEWHERE providing the highest degree of

CONTROL
and
ECONOMY

SEE GRAY SECTION 1939 COMPOSITE CATALOG

GRAY
TOOL COMPANY
HOUSTON – TEXAS

Southwest Texas Development, Production and Reserve Data by Fields and Counties—(Cont'd)

COUNTY AND FIELD	Discovery Date	AMOUNT OF ACREAGE: Acres Proved	Acres Undeveloped	Acres Developed	No. of Wells July 1, 1939	Daily Field Allowable July 1, 1939	DAILY PRODUCTION July 1, 1939: Field	Well	BARRELS CUMULATIVE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	ESTIMATED BARRELS OF ULTIMATE PRODUCTION: Field to Jan. 1, 1939	July 1, 1939: Field	Acre	REMAINING RESERVE: Total Field	Per Acre
Starr County	**7-25**	**9,810**	**2,270**	**3,210**	**131**	**1,939**	**1,936**	**15**	**1,917,225**	**2,202,303**	**686**	**9,667,000**	**22,738,000**	**7,083**	**20,535,697**	**6,397**
Barbacoas	5-33	480	None	120	2	8	10	5	34,765	35,899	300	540,000	540,000	4,500	504,101	4,200
Cuevitas	6-33	640	None	640	13	517	520	40	831,576	926,929	1,449	3,552,000	3,552,000	5,550	2,625,071	4,101
La Reforma	7-38	320	240	80	2	None	Shut-in	None	4,584	5,634	71	280,000	280,000	3,500	274,366	3,429
Los Olmos	7-25	550	None	240	71	122	116	1¼	561,320	577,197	2,405	960,000	960,000	4,000	382,803	1,595
Ricaby	2-37	120	90	30	3	100	80	27	2,545	4,495	150	20,000	105,000	3,500	100,505	3,350
Rincon	2-38	3,000	2,920	80	2	100	120	60	11,415	15,578	195	100,000	336,000	4,200	320,422	4,005
Rio Grande City	5-32	160	None	120	15	103	100	7	319,358	334,266	2,785	480,000	480,000	4,000	145,734	1,215
Roma	10-27	720	None	20	1	6	5	5	10,809	11,630	582	20,000	20,000	1,000	8,370	418
South Ricaby	5-37	220	90	130	12	466	455	22	139,604	204,431	1,573	715,000	715,000	5,550	510,569	3,927
Sun	9-38	3,600	1,850	1,750	10	517	530	53	11,429	86,244	49	3,000,000	15,750,000	9,000	15,663,756	8,951
Travis County	**10-34**	**80**	**None**	**80**	**5**	**10**	**10**	**2**	**23,183**	**24,958**	**312**	**80,000**	**80,000**	**1,000**	**55,042**	**688**
Kimbro	9-35	40	None	40	3	6	6	2	1,645	2,780	70	40,000	40,000	1,000	37,220	930
Manda	10-34	40	None	40	2	4	4	2	21,538	22,178	554	40,000	40,000	1,000	17,822	445
Val Verde County	**1-38**	**40**	**None**	**40**	**3**	**5**	**Shut in**	**None**	**50**	**50**	**2**	**8,000**	**8,000**	**200**	**7,950**	**199**
Vinegarone	1-38	40	None	40	3	5	Shut-in	None	50	50	2	8,000	8,000	200	7,950	199
Victoria County	**6-30**	**17,920**	**1,660**	**3,350**	**251**	**12,608**	**12,705**	**51**	**9,080,848**	**10,928,393**	**3,262**	**39,070,000**	**43,350,000**	**12,937**	**32,421,607**	**9,675**
Coletto Creek	6-33	520	250	260	20	460	445	23	893,093	967,811	3,724	2,210,000	2,210,000	8,500	1,242,189	4,776
East Placedo	12-37	650	410	240	9	449	450	50	109,147	186,364	776	2,040,000	2,040,000	8,500	1,853,636	7,724
East Telferner	1-38	30	None	30	2	28	25	13	28,494	33,398	1,116	120,000	120,000	4,000	86,602	2,884
Keeran	1-32	2,000	400	620	17	801	810	42	251,098	372,648	601	7,000,000	8,060,000	13,000	7,687,352	12,399
McFaddin[12]	6-30	12,000	400	520	45	2,924	2,960	65	489,180	871,077	1,675	2,500,000	5,720,000	11,000	4,848,923	9,325
Placedo	4-35	2,720	200	1,680	158	7,946	8,015	51	7,309,836	8,497,095	5,058	25,200,000	25,200,000	15,000	16,702,905	9,942
Webb County	**-09**	**18,480**	**640**	**11,350**	**1,012**	**18,343**	**18,308**	**18**	**39,360,385**	**42,982,447**	**3,789**	**99,117,400**	**100,637,400**	**8,868**	**57,654,953**	**5,079**
Adami	5-39	20	None	20	1	100	70	70	None	6,605	330	None	70,000	3,500	63,395	3,170
Albercas	3-37	450	None	300	16	50	50	3	2,451,833	2,460,947	8,203	2,700,000	2,700,000	9,000	239,053	797
Aviator	5-22	1,280	None	980	45	364	360	8	5,739,686	5,795,911	5,914	6,448,400	6,448,400	6,580	652,489	666
Carolina Texas	11-21	1,620	None	180	1	7	7	7	257,833	259,804	1,444	450,000	450,000	2,500	190,196	1,056
Cole-Bruni	6-34	840	200	640	36	721	720	20	2,402,858	2,506,290	3,916	4,800,000	4,800,000	7,500	2,293,710	3,585
Cole O'Hern	1-27	3,000	None	2,400	232	6,668	6,665	29	6,140,891	7,126,370	2,969	21,600,00	21,600,000	9,000	14,473,630	6,031
Killam	4-37	800	None	630	70	643	640	9	460,390	549,263	872	4,725,000	4,725,000	7,500	4,175,737	6,628
Laurel	6-32	300	None	260	6	17	16	3	677,425	680,011	2,615	780,000	780,000	3,000	99,989	385
Leaseholders	9-22	40	None	10	None	None	Depltd	None	25,000	25,000	2,500	25,000	25,000	2,500	None	None
Lopez	6-35	3,650	None	3,480	339	6,843	6,845	20	6,577,497	8,519,707	2,448	38,280,000	38,280,000	11,000	29,760,293	8,552
Mirando City	12-21	2,400	None	1,000	79	413	420	5	8,884,948	8,945,914	6,390	9,030,000	9,030,000	6,450	84,086	60
Moca	12-32	90	None	90	11	426	430	40	863,265	922,777	10,253	1,305,000	1,305,000	14,500	382,223	4,247
No. Killam	12-38	340	120	80	6	222	220	37	930	22,348	279	50,000	520,000	6,500	497,652	6,221
Oilton	8-37	850	None	660	110	1,332	1,325	12	812,095	1,030,605	1,562	4,620,000	4,620,000	7,000	3,589,395	5,438
Reiser	-09	1,290	None	20	None	None	Depltd	None	4,000	4,000	200	4,000	4,000	200	None	None
Volpe	6-39	400	320	80	5	90	100	20	None	1,134	14	None	600,000	7,500	598,866	7,486
West Cole	4-27	1,750	None	520	55	447	440	8	4,061,734	4,125,761	7,934	4,300,000	4,680,000	9,000	554,239	1,066
Willacy County	**9-36**	**20**	**None**	**20**	**None**	**None**	**Depltd**	**None**	**17,954**	**17,954**	**897**	**17,954**	**17,954**	**897**	**None**	**None**
La Sal Vieja	9-36	20	None	20	None	None	Depltd	None	17,954	17,954	897	17,954	17,954	897	None	None
Williamson County	**2-15**	**1,320**	**None**	**1,320**	**126**	**370**	**375**	**3**	**7,199,250**	**7,257,214**	**5,498**	**8,510,500**	**8,510,500**	**6,447**	**1,253,286**	**949**
Byersville	10-33	250	None	250	38	108	110	3	469,537	484,006	1,936	1,125,000	1,125,000	4,500	640,994	2,564
Chapman-Abbott	1-30	450	None	450	70	230	230	3	4,322,220	4,359,869	9,688	4,657,500	4,657,500	10,350	297,631	662
Thrall	2-15	620	None	620	18	32	35	2	2,407,493	2,413,339	3,892	2,728,000	2,728,000	4,400	314,661	508
Zapata County	**-13**	**6,630**	**330**	**4,960**	**669**	**4,689**	**4,682**	**7**	**11,951,832**	**12,552,451**	**2,531**	**20,721,000**	**21,977,000**	**4,431**	**9,424,549**	**1,900**
Cuellar	2-27	640	None	450	24	115	112	5	2,535,583	2,554,146	5,676	2,655,000	2,655,000	5,900	100,854	224
Charco Redondo	-13	570	None	420	47	17	17	¼	148,743	150,674	359	210,000	210,000	500	59,326	141
Comitas	8-34	850	100	750	161	942	940	6	866,589	995,385	1,327	3,000,000	3,000,000	4,000	2,004,615	2,673
Escobas	5-29	3,820	None	2,820	395	2,646	2,653	7	7,697,908	8,054,899	3,920	13,356,000	13,356,000	5,800	5,301,101	1,880
Mirando Valley	4-21	750	230	520	42	969	960	23	703,009	797,347	1,534	1,500,000	2,756,000	5,300	1,958,653	3,766
Zavala County	**5-37**	**5**	**None**	**5**	**None**	**None**	**Depltd**	**None**	**10,022**	**10,022**	**2,004**	**10,022**	**10,022**	**2,004**	**None**	**None**
Batesville	5-37	5	None	5	None	None	Depltd	None	10,022	10,022	2,004	10,022	10,022	2.004	None	None

[12]Includes No. McFaddin.

SOUTH TEXAS OIL FIELDS *and* PROSPECTS

Compiled by EARL S. POST of THE OIL WEEKLY Staff

Acknowledgment is made to the many operators and companies who have cooperated in the following compilation by making available their records and checking the data presented.

All information as of mid-year, 1939, unless otherwise specified

ARANSAS COUNTY

FULTON*

1½ miles w of Fulton, centering around William Carper Survey. **Means of Discovery:** Reflection seismograph by Humble Oil & Refining Co., Stanolind Oil & Gas Co., reflection seismograph, and Pure Oil Co., reflection seismograph, in 1938. **Development to July 1, 1939:** Housh & Thompson's Kent Crane 1, abnd in 1938, at 7534 ft, in Frio zone. Slight gas show found at 7225 ft. **Principal Leaseholders:** Humble, Stanolind, Tidewater Associated Oil Co., Housh & Thompson.

LAMAR

At Lamar townsite, William Lewis Survey. **Means of Discovery:** Geophysical survey, surface indication. **Discovery Data:** Barnsdall Oil Co.'s Kate Edwards 1-A, Sept. 25, 1937, 73 bbls 55.9 gr dist, ⅝-in ch, 850 lbs working pressure on tubing; gas oil ratio 41,096 to 1; producing horizon between 7500-7650 ft; total depth 9785 ft; perforated 7502-30 ft. **Structure:** Elongated dome, not classified as salt dome. **Elevation:** 10 ft. **Formation, Depth, Gravity:** Frio, 7500-7600 ft, 55.9 gr. dist. **Productive Acres:** 40 acres of distillate developed, structure yet unexplored. **Development to January 1, 1939:** 1 distillate, 1 junked. **Expected Ultimate Recovery:** Distillate field, no estimate. **Deepest Hole:** Discovery. **Development and Producing Methods:** 18⅝-in csg, 300 ft; 10¾-in csg, 1400 ft; 9⅝-in csg, 7500 ft; 7-in csg, to expected producing level, production by perforations. High gas/oil ratio indicates recycling plant ultimately will be constructed. Pressures caused drill stem to stick in both wells, one blew out. **Outlets:** Limited amount of distillate trucked. **Rigs Running:** None. **Principal Leaseholders:** Barnsdall Oil Co., Humble Oil & Refining Co., The Texas Co. **Remarks:** Large portion of this structure is considered to be on State submerged lands and development likely will be carried on from barges or piling in the future.

McCAMPBELL

At Aransas Pass townsite, McCampbell Ranch and Burton and Danforth Subdivision, in Aransas and San Patricio counties. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** Buckingham Oil & Gas Co.'s McCampbell 1, July 25, 1936, 250 bbls 40.5 gravity oil, 10,000,000 cu ft gas, 7/64-in choke, 2250 lbs tubing, 2575 lbs casing; total depth 7501 ft; producing horizon, 6539-54 ft; elev 15 ft derrick floor; plugged back, sidetracked and drilled to 6560 ft, set 7-in casing on bottom, perforated at 6539-47 and 6551-54 ft. **Structure:** Anticlinal structure, faulted to southeast. Fault extends northeast southwest through southeastern portion of Aransas Pass townsite with downthrown side to southeast. Production in sand lenses on upthrown side of fault. **Elevation:** 15-30 feet. **Formation, Depth, Gravity:** Marginulina 6550 ft, 40.5 gravity; Frio, 6790 ft, 46 gravity; 7100-foot Frio sand, 39.5 gravity; 7200-foot Frio sand, 42 gravity; 7300-foot Frio, distillate. Some of the wells in each sand produce up to 58 gravity distillate due to high gas-oil ratio. **Productive Acres:** 3100 acres of which 2280 acres developed in oil, and 2280 acres proved in gas. Estimated additional 820 acres undeveloped in oil. **Development to Jan. 1, 1939:** 152 wells, 145 oil, 2 gas, 5 failures; 115 wells, 112 oil, no gas, 3 failures first six months 1939. **Expected Ultimate Recovery:** 16,416,000 bbls. **Produced to July 1, 1939:** 4,365,350 bbls. **Remaining Reserve:** 12,050,651 bbls on July 1, 1939. **Deepest Hole:** Richardson Petroleum Corp.'s Sherwood 1, southwest of production, abnd March 24, 1939, 9074 ft. **Development and Producing Methods:** 13- to 16-in at 150 to 300 ft; 10-in from 1000 to 1500 ft; 5 to 7-in through producing sand and completion by perforations. Sands highly anticular and utmost care taken to overcome gas-oil ratio. Practically all wells connected to natural gasoline plant system. **Outlet:** Atlantic Pipe Line Co. **Rigs Running:** 6 in July, 1939. **Principal Leaseholders:** Abbott & Traxler et al, C. Andrade, Atlantic Refining Co., Baltic Drilling Co., Bay-Tex Oil Corp., Bagdad Prod. Co., Paul G. Benedum, Walter Brauer, R. B. Bryant, Buckingham Oil Co., Buckner Oil Co., Corgey & Grote, Danrey Oil Co., J. K. Culton, Eleanor Oil Co., Frankston Oil Co., McAlester Fuel Oil Co., Moran Corp., Moran Gas Co., James P. Nash, Nueces Royalty Co., Rantex Oil Co., Richardson Pet. Co., P. R. Rutherford, San Pat Oil Co., Shasta Oil Co., P. W. Slemp, Tusca Oil Co., Warren & Carmos Drlg. Co., H. H. Wegener.

* Prospect. ‡ Gas field.

ROCKPORT*

North of Robstown, centering around Joseph Fesseden Survey. **Means of Discovery:** Geophysical work and surface geology. Several companies shot area prior to 1935. Gulf Oil Corp. and Continental Oil Co. worked surface with reflection and seismograph. Additional seismograph work in 1938 by Humble Oil & Refining Co., Pure Oil Co., and Stanolind Oil & Gas Co. **Development:** American Liberty Oil Co. et al drilled A. L. Dietzel 1 to 6405 ft in 1934. **Principal Leaseholders:** Continental, Gulf and others.

ST. JOSEPH ISLAND*

Island across Aransas Bay from Aransas County main land. **Means of Discovery:** Surface indications, oil seeps into Gulf of Mexico, seismograph by Gulf Oil Corp. between 1936 and 1938. **Development:** Several shallow tests drilled in area. No adequate operation thus far sunk. **Principal Leaseholder:** Gulf has lease on island.

ATASCOSA COUNTY

ANCHORAGE*

Centering around Anchorage, Crus Laden Survey 45 and F. de La Garza Grant. **Means of Discovery:** Geological data indicated faulting, also magnetometer work. Area originally worked by Rio Bravo Oil Company. **Development:** O. W. Killam's O. K. Seitz 1, July 13, 1933, showed serpentine 3512-3624 ft, set 6⅝-in csg, 3530 ft, test 3,000,000 cu ft gas, little oil, 3640 ft, but water broke in from above, drilled to 4065 ft and abnd. Helvetia Oil Co.'s Pratt 1 drilled to 2434 ft after encountering sand and sandy shale between 2249 and 2300 ft, the section between 2258-77 ft being green sand. The hole was plugged back to 2300 ft, 7-in csg, at 2245 ft, where the well showed about 5 bbls of 44-gravity oil per day. It was deepened to 3778 ft in Edwards lime and abnd. Pratt 2 abandoned in 1937 at 3460 ft after failing to complete as oil well in serpentine. Western Gulf Pet. Corp.'s Vegenas 1, abnd Aug. 31, 1938, at 2743 ft in serpentine, topped 2703 ft. Mason Altgelt et al's Vegenas 1, abnd July 28, 1938, at 2796 ft in serpentine, topped 2729 ft. Altgelt and Chapman Minerals' J. P. Gipson 1, abnd 1938 at 3017 ft. In 1924 and 1925 Rio Bravo drilled Cortenias 1 and 2 to 2985 ft and 4080 ft, respectively. **Principal Leaseholders:** Helvetia Oil Company, Mason Altgelt et al.

CRAWFORD*

5 mi w Anchorage and centers around J. O. Crawford Survey No. 69. **Means of Discovery:** Geological information. **Development:** L. W. Stieren's T. A. Crawford 1, abnd Jan. 3, 1938, 3867 ft, encountered oil show in Taylor 2493-2504 ft and swabbed little gas and oil, deepened, found broken serpentine at 3348-52 ft, Austin chalk 3377 ft; then swabbed little oil, gas and water at 3476 ft, deepened to Edwards lime, topped at 3860 ft, and showed slight oil; acid failed. **Principal Leaseholder:** L. W. Stieren.

FASHING*

2 mi n Fashing, centering J. S. Donovan Survey No. 146. **Means of Discovery:** Surface geology and trend drilling, followed by subsurface correlations on previously drilled wells. **Development:** Jacob, Buzzinni & Picketts' Schroedor 1, abnd April 15, 1933, 1255 ft. J. R. B. Moore et al's Riley 1, abnd July 15, 1934, 1380 ft. Pulliam & Dickson's Henke 1, abnd July 26, 1939, 1202 ft; had showing in Upper Jackson 649-56 ft, where production test showed little oil and salt water and considerable gas. A second test offsetting Henke 1 abnd August, 1939, 662 ft. **Principal Leaseholder:** Pulliam & Dickson.

POTEET

3 mi n of Poteet, J. T. Russel Survey No. 122. **Means of Discovery:** Magnetic survey by F. E. Heatley in 1935. **Development:** Atascosa Trust, G. Tiffany, Tr.'s U. A. Doumch 1, abnd Sept. 26, 1936, 4012 ft in Edwards lime, well was plugged back to 3500 ft and acidized twice with 2000 gallons on each treatment, swabbed about three bbls of oil per day. Oil show in Basal Taylor 3487-3500 ft, top of Austin chalk, 3503 ft. **Principal Leaseholder:** Not leased.

BANDERA COUNTY

PLATEAU-GARRISON*

8 mi sw Medina, centering around Section 506. **Means of Discovery:** Surface geology. **Development:** Plateau Oil Co.'s Garrison 1, abnd Dec. 15, 1934, 5365 ft in Pennsylvanian.

BASTROP COUNTY

CARROLL

10 mi sw Bastrop, Andrew Mayes Survey No. 19. **Means of Discovery:** Geophysical and geological survey. **Discovery Data:** Sun Oil Co. and Parson & Mayfield's J. H. Carroll 1, Aug. 28, 1932, pumping 75 bbls 36-gravity oil, 2378 ft, top serpentine 2245 ft, soft serpentine 2300 ft, oil in last 2 ft. **Structure:** Igneous plug cut by NE-SW faulting. **Elevation:** 430 ft. **Formation, Depth, Gravity:** Serpentine and broken serpentine with chalk, 2300 ft, 36 gravity. **Productive Area:** 60 acres, all developed in oil. **Development to Jan. 1, 1939:** 10 wells; 6 oil, no gas, 4 failures; 1 oil well first six months of 1939. **Expected Ultimate Recovery:** 120,000 bbls on July 1, 1939. **Produced to Jan. 1, 1939:** 88,119 bbls; 5106 bbls first six months, 1939. **Remaining Reserve:** 24,775 bbls on July 1, 1939. **Deepest Hole:** Sun Oil Co.'s Page Probst 1, abnd Feb. 15, 1935, 2919 ft. **Development and Producing Methods:** 10-in at 20 to 40 ft, 7-in atop pay. Wells acidized with average of 2000 gallons. All wells on pump using central power. **Outlets:** Humble Pipe Line Co. **Rigs Running:** None, July 1, 1939. **Principal Leaseholder:** H. H. Coffield.

CEDAR CREEK

4 mi e Cedar Creek, R. Gage, A. Navarro and Addison Litton surveys. **Means of Discovery:** Geophysics. **Discovery Data:** Marts & Beavans' Reyes 2, June 1, 1933, 175 bbls 34.2-gravity oil, 1707 ft, top serpentine 1695 ft, elev 501 ft. **Structure:** Serpentine plug, oval shape, axis NE-SW. **Elevation:** 430 ft. **Formation, Depth, Gravity:** Serpentine, or igneous rock, Cretaceous age, 1700 ft, 34.2 gravity. **Productive Area:** 80 acres. **Development to July 1, 1939:** 33 wells, 17 oil, 16 failures. **Expected Ultimate Recovery:** 420,000 bbls. **Produced to July 1, 1939:** 240,000 bbls. **Remaining Reserve:** 180,000 bbls. **Deepest Hole:** Joe Mills' S. A. Voss 2, abnd 1849 ft, 1933. **Development and Producing Methods:** 10-in at 20 to 40 ft, 7-in atop pay. All wells on pump from central power. **Outlets:** Bastrop County Pipe Line Co. to Magnolia Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** Mart & Beavens. **Remarks:** Includes two-well area sometimes referred to as North Cedar Creek.

EAST CEDAR CREEK*

Centering around Martha Barker Survey, 2½ mi e of Cedar Creek. **Means of Discovery:** Surface geology, trend drilling on known fault and correlations against several tests which proved strike falling. **Development:** Hantho-Nelson, Inc.'s K. M. Lytton 1, completed 1937, 2132 ft in Austin chalk after acidizing, produced at rate of 225 bbls per day, but immediately dropped to practically nothing. Lytton 2, 1000 ft north, topped Austin chalk at 1907 ft, drilled to 2259 ft, with base of chalk, 2194 ft, acidized with 4000 gallons and on Dec. 12, 1937, pumped 21 bbls in 12 hours but failed to hold up production. Olson Oil Co.'s Murchison 1, two mi sw Lytton discovery, drilled saturated chalk 1828-1925 ft, acidized with 4000 gallons, pumped and flowed 12 bbls per hour, but did not maintain production, deepened to 2315 ft, 4 ft in Edwards lime, tested sulphur water with oil show, plugged back 1875 ft, shot, collapsed pipe, and junked. Well made 1 to 5 bbls per day after hole was damaged. **Principal Leaseholders:** Hantho-Nelson, Inc., R. Olson Oil Company et al.

HILBIG

7 mi s Bastrop, S. Wolfenberger and A. Mayes surveys. **Means of Discovery:** Magnetometer. **Discovery Data:** Humble Oil & Refining Co.'s Hassler 1, Feb. 15, 1933, 1872 bbls 37.1-gravity oil, 1-in choke, 350 lbs tubing, 500 lbs casing pressure. Producing horizon 2468-2577 ft. **Structure:** Domal type structure (plug). Presence of fault. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Serpentine, Cretaceous age, 2500 ft, 37.1 gravity. **Productive Area:** 230 acres. **Development to Jan. 1, 1939:** 20 wells, 15 oil, 5 failures. **Expected Ultimate Recovery:** 2,800,000 bbls. **Produced to Jan. 1, 1939:** 1,417,150 bbls. **Remaining Reserve:** 1,382,850 bbls on July 1, 1939. **Deepest Hole:** Humble's Wolfenberger 1, abnd in 1933, 2683 ft, Edwards limestone. **Development and Producing Methods:** 10-in at 60 ft, 7-in atop producing zone. Most of wells still flowing as result of pressure maintenance units constructed in field shortly after completion of initial drilling campaign. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Humble. **Remarks:** This is the only field along the Balcones fault resorting to pressure maintenance.

NORTH DALE

6 mi n Dale, John Maximilian, Joshua Gray. **Means of Discovery:** Geological information, surface fault; north extension to pool result of geophysical work. **Discovery Data:** Ogden & Reed Oil Co.'s C. L. Riddle (94½-ac tract) 1, Sept. 4, 1932, 100 bbls 38-gravity oil per day, 2223 ft, producing horizon 2164-2223 ft, 6⅝-in casing 2164 ft, elev 440 ft. **Structure:** Producing an upthrow side of fault running NE and SW. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Dale lime, eroded serpentine and broken Taylor. No solid serpentine. Dale lime is local name, 2200 ft, 38 gravity. **Productive Area:** 160 acres. **Development to Jan. 1, 1939:** 40 wells, 24 oil, 16 failures. **Expected Ultimate Recovery:** 710,000 bbls. **Produced to July 1, 1939:** 531,500 bbls, 17,655 bbls recovered first 6 months 1939. **Remaining Reserve:** 178,500 bbls. **Deepest Hole:** Ogden & Reed's M. F. Talley 3, abnd in Edwards lime Jan. 1, 1935. **Development and Producing Methods:** 40 ft of 10-in, 5½- to 7-in atop pay. Acidized with 2000 to 3000 gallons. Well completed on pump, central power. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Mart & Beavens, Ralph R. Ogden.

RED ROCK

1½ mi nw Red Rock, Freeman Wilkinson Survey No. 21. **Means of Discovery:** Trend drilling and geological survey. **Discovery Data:** V. A. Hughes & Co.'s O. B. Lentz 1, May 25, 1939, 75 bbls 37-gravity oil per day, pumping. **Structure:** Faulting. **Elevation:** 479 ft. **Formation, Depth, Gravity:** Dale limestone, 2300 ft, 37 gravity. **Productive Area:** 80 acres, 35 developed. **Development:** One well. **Expected Ultimate Recovery:** 105,000 bbls. **Deepest Hole:** J. W. Bibb et al's O. B. Lentz 1, abnd 2550 ft. **Development and Producing Methods:** 10-in csg, 60 ft; 5½-in csg, 2283 ft. **Outlets:** None. **Rigs Running July 1, 1939:** 1. **Principal Leaseholder:** V. A. Hughes & Co.

RIDDLE

6 miles nw Red Rock, Henry Warnell Survey. **Means of Discovery:** Magnetometer. **Discovery Data:** Ogden & Riddle's C. L. Riddle 1, June 21, 1938, 33 bbls 39 gr oil per day, pumping; producing horizon 1667-1747 ft; total depth 1773 ft. **Structure:** Faulted structure with serpentine in broken chalk and limestone along fault. **Elevation:** 474 ft. **Productive Area:** 50 acres. **Development to July 1, 1939:** 8 wells, 5 oil, 3 failures. **Expected Ultimate Recovery:** 160,000 barrels. **Produced to July 1, 1939:** 32,667 barrels. **Remaining Reserve:** 127,333 bbls. **Deepest Hole:** Ogden & Riddle's Riddle 3, 1777 ft, 1938. **Development and Producing Methods:** 10-in csg, 40 ft; 7-in csg, 1650 ft; 5½-in of perforated liner on bottom. Wells acidized with 2000 to 3000 gallons and completed on pump. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** R. R. Ogden, Southern Cross Oil Company, C. L. Riddle.

SCHIMMEL-BATTS

6 mi n Lytton Springs, James Doyle Survey. **Means of Discovery:** Geological information, surface indications. **Discovery Data:** Schimmel-Batts Williams 1, May 15, 1931, 6 bbls 25-gravity oil per day, 1977 ft; top serpentine 1373 ft, top chalk 1977 ft; 6⅝-in casing set 1384 ft. **Structure:** Small igneous plug. **Elevation:** 468 ft. **Formation, Depth, Gravity:** Serpentine, 1500 ft, 25 gravity. **Productive Area:** 20 acres. **Development to Jan. 1, 1939:** 6 wells, 3 oil, 3 failures. **Expected Ultimate Recovery:** 5782 bbls. **Produced to Jan. 1, 1939:** 5782 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Discovery. **Outlets:** Pitzer-West & Boone pipe line to Dale; not now in use. **Rigs Running July 1, 1939:** None. **Remarks:** This should be classified as a prospect rather than a producing area, as several wells produced a limited amount of crude and were plugged.

YOST

14 mi sw Bastrop, A. Garcia Survey. **Means of Discovery:** Geological information. **Discovery Data:** Cranfill-Reynolds and A. M. Loomis' Yost 1, Nov. 4, 1928, 400 bbls 25.2-gravity oil per day, 1598 ft; producing horizon 1480-1548 ft, elev 500 ft. **Structure:** Igneous plug cut by NE-SW fault. **Elevation:** 475 ft. **Formation, Depth, Gravity:** Serpentine 1500 ft, 15.2 gravity. **Productive Area:** 120 acres. **Development to July 1, 1939:** 35 wells, 27 oil, 8 failures. **Expected Ultimate Recovery:** 980,000 bbls. **Produced to July 1, 1939:** 903,947 bbls. **Remaining Reserve:** 76,053 bbls. **Deepest Hole:** Cranfill-Reynolds' Yost 6, abnd 2080 ft, Feb. 2, 1936. **Development and Producing Methods:** 10-inch at 20 ft; 5½-inch atop pay. All wells on pump from central power. **Outlet:** Pitzer, West & Boone line to Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** McCarty & Pulliam, Ralph Ogden.

BEE COUNTY

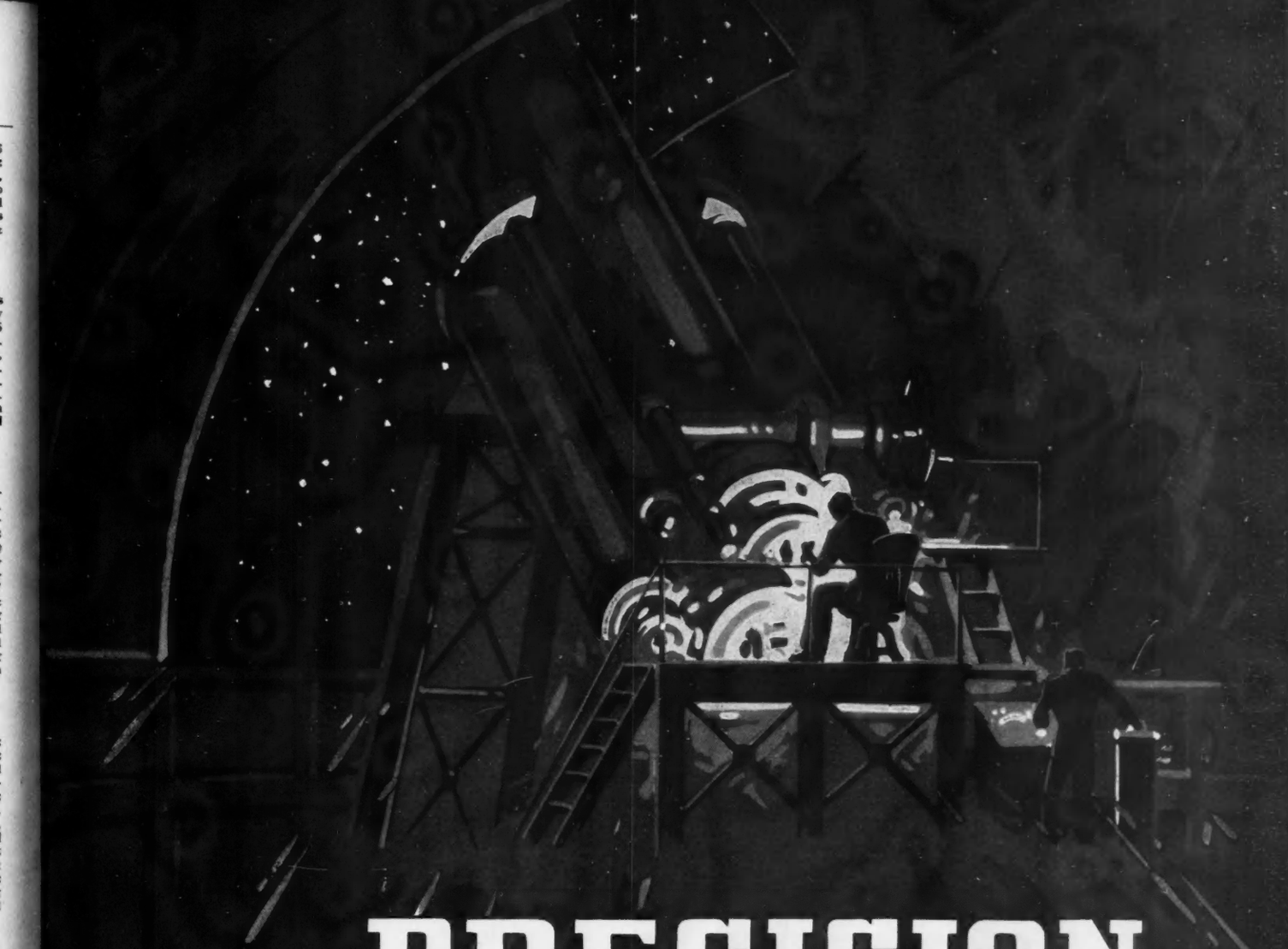
BEEVILLE

3½ mi s Beeville, J. Ryan Survey. **Means of Discovery:** Geological-geophysical prospect, development prior to discovery. **Discovery Data:** George M. Church's J. C. Woods 1, Sept. 22, 1935, 20,000,000 cu ft gas, spraying 61 bbls 61.7-gravity oil per day, ¼-in choke, 1550 lbs tubing, 1800 lbs casing pressure, total depth 5831 ft, producing horizon 5810-31 ft, ele 177 ft derrick floor. **Structure:** Sand lens cut by fault. **Elevation:** 177 ft. **Formation, Depth, Gravity:** Conroe sand in Yegua 5800 ft, 61.7 gravity, distillate. **Productive Area:** 20 acres. **Development to July 1, 1939:** 5 wells, 1 oil, 1 gas, 3 failures. **Expected Ultimate Recovery:** 701 bbls. **Produced to Jan. 1, 1939:** 701 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Chapman Minerals Corp.'s J. B. Ablinger 1, abnd 6013, Feb. 8, 1939. **Development and Producing Methods:** This area has proved difficult due to high pressure and gas volume. 500 ft 10-in surface casing; producing string through sand and perforated. **Outlets:** Trucks. **Rigs Running:** None. **Principal Leaseholders:** Lonnie Glasscock, Houston Oil Co., Magnolia Petroleum Co. **Remarks:** Primarily a gas field, still in exploratory stage.

CAESAR

Franklin Lewis, Wm. F. Hodge, P. B. McEarly Surveys, extending NW SW of Caesar. **Means of Discovery:** Geological information, drilling on strike with wildcat showing gas and oil. **Discovery Data:** Caesar Oil Co.'s C. E. Pullin 1-A, May 14, 1934, 20,000,000 cu ft gas, spraying 32.2-gr oil, ¼-in choke, 1150 lbs tubing, 1300 lbs casing pressure, total depth 3034 ft, producing horizon 3007-34 ft, elev 433 ft. **Structure:** Narrow fold against

* Prospect. ‡ Gas field.



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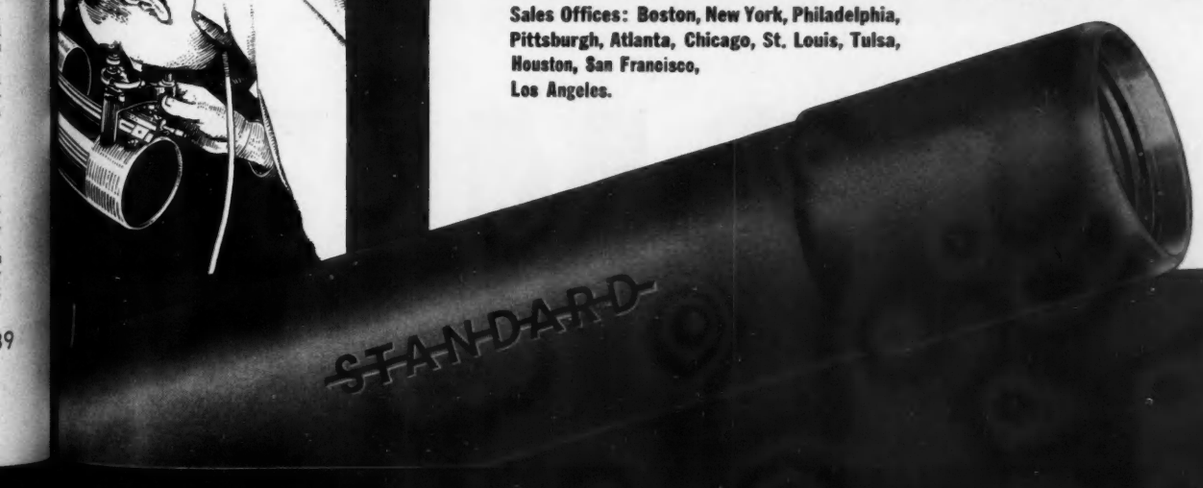

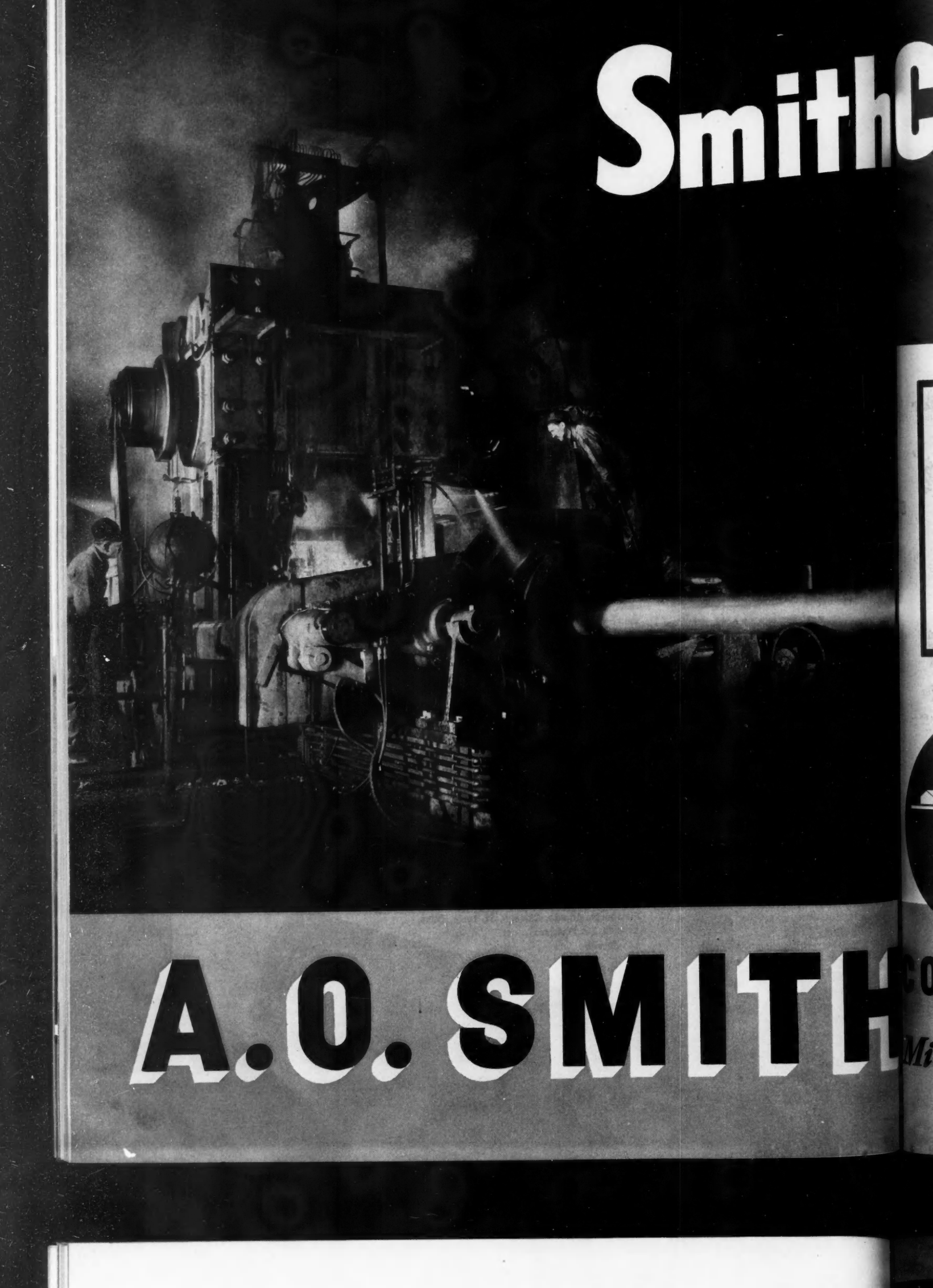
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NE-SW fault, oil on steep flank of structure, large gas zone at crown of fold. **Elevation:** 435 ft. **Formation, Depth, Gravity:** Pettus of Upper Cockfield, Jackson age, 3000 ft, 32.2 gravity. **Productive Area:** 520 acres. **Development to January 1, 1939:** 54 wells, 31 oil, 8 gas, 15 failures. **Expected Ultimate Recovery:** 2,652,000 bbls. **Produced to July 1, 1939:** 900,768 bbls. **Remaining Reserve:** 1,750,732 bbls. **Deepest Hole:** Houston Oil Co.'s Miller 1, 3404 ft; plugged back and perforated about 3020 ft, completed as gasser June 10, 1934. **Development and Producing Methods:** Majority of wells now pumping and field making considerable water. 150 ft of 10-in surface casing; producing string to top of sand. **Outlets:** Falcon Pipe Line Co. line to Pettus, Logco Pipe Line Co. line to Burnell, both have loading racks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Caesar Oil Co., Commodore Oil Co., Luling Oil & Gas Co., McAlester Fuel Co.

COPELAND*

3½ mi nw Pettus, Obid Marshall Survey. **Means of Discovery:** Geological information based on several dry holes drilled in immediate area. Drilling along trend fault. **Development:** Three failures drilled to Pettus sand prior to January 1, 1936. Two failures drilled 1936. Severy et al's J. E. Copeland 1 showed 350 lbs gas pressure on drill stem, 3420-71 ft, plugged back, set 7-in 3523 ft and perforated 3465-71 ft, resulting in salt water. Eden Oil Co.'s J. E. Copeland 1, drilled to 3596 ft, abnd.

COSDEN

1 mi w Pettus, John Pace, George Kerr Surveys. **Means of Discovery:** Geological information, attempt to extend Pettus field west. **Discovery Data:** Cosden Oil Co.'s McKinney 1, June 1, 1930, 270 bbls 45.5-gravity oil and 500,000 cu ft gas; 400 lbs casing pressure; 6⅝-in casing set 3654 ft; sand 3659-77 ft; elev 392 ft. **Structure:** Faulting and folding small producing structure. **Elevation:** 360-400 ft. **Formation, Depth, Gravity:** Pettus sand in Cockfield, 3600 ft, 45.5 gravity. **Productive Area:** 120 acres. **Development to July 1, 1939:** 19 wells, 10 oil, 3 gas, 6 failures. **Expected Ultimate Recovery:** 1,365,000 bbls. **Produced to Jan. 1, 1939:** 1,039,000 bbls; 1939 production included with Pettus. **Remaining Reserve:** 326,000 bbls. **Deepest Hole:** Rowan & Tong's J. M. Freeland 1, 4536 ft, dry. **Development and Producing Methods:** All wells pumping, making water. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Cosden Oil Co., Elwood & Young.

DASH*

2 miles sw Burnell, Butler subd of J. M. Thurston Survey. **Means of Discovery:** Geological information, subsurface correlations and surface indications. Shallow gas wells. **Development:** Dash Production Co.'s B. B. Ruhman 1, Dec. 21, 1933, in Upper Cockfield of Jackson series, about same place in section as upper portion of Pettus sand. Initial production 10,000,000 cu ft gas and 35 bbls 35-gravity oil per day, 5/16-in choke, total depth 3202 ft; 850 lbs tubing, 990 lbs casing pressure; sand 3176-3195 ft; pressure increased and oil flow was cut to practically nothing. Several other tests failed to develop production. **Principal Leaseholder:** Luling Oil & Gas Co.

DIRKS

5 mi sw Pettus, Section 7, J. M. Uranga Grant, G. B. Young, T. J. Butler, M. O'Brien, J. W. Young, T. P. Rawlins, J. L. Bugat surveys. **Means of Discovery:** Geological, a trend play. **Discovery Data:** Dirks Bros.' J. E. Roth 1, Dec. 23, 1934, 286 bbls oil, ¼-in choke, 225 lbs tubing, 550 lbs casing pressure, total depth 3884 ft, producing horizon 3882-84 ft. **Structure:** Sand lensing, faulting and folding trending NE-SW. **Elevation:** 420 ft. **Formation, Depth, Gravity:** Pettus in Cockfield, 3900 ft, 47.5 gravity. **Productive Area:** 920 acres. **Development to July 1, 1939:** 115 wells, 104 oil, 11 failures. **Expected Ultimate Recovery:** 8,464,000 bbls. **Produced to July 1, 1939:** 4,770,000 bbls. **Remaining Reserve:** 3,693,564 bbls. **Deepest Hole:** Mills Bennett's Rapp 3, abnd 4773 ft in Yegua, Oct., 1935. **Development and Producing Methods:** 150 ft 10-in surface casing; producing string to top of sand. Most of wells now on pump or flowing through flow valves. **Outlets:** Atlantic Pipe Line Co., Pettus Refining Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Devonian Oil Co., Dirks Bros., Yeyser-Heard-Walton, Humble Oil & Refining Co., Illinois Petroleum Corp., Kleiner & Hill, Mills Bennett Prod. Co., Sun Oil Co., The Texas Co., Wrightsman Oil Co. **Remarks:** Sparta-Wilcox test to 8200 ft planned in this field.

FOLEY

4½ mi w Normanna, Keeler Survey. **Means of Discovery:** Geological prospect. **Discovery Data:** Dirks Bros.' Foley 1, Feb. 1, 1935, 25,000,000 cu ft gas, spraying 38 bbls distillate per day, ¼-in choke, 1000 lbs tubing; 1250 lbs casing pressure; total depth 3445 ft, producing horizon 3404-45 ft, elev 415 ft derrick floor. **Structure:** Sand lensing against fault. **Elevation:** 415 ft. **Formation, Depth, Gravity:** Hockleyensis of Jackson age, 3450 ft, wet gas; Pettus of Cockfield, 4100 ft, 46 gravity. **Productive Area:** 180 acres, 100 acres oil, 80 acres gas. **Development to January 1, 1939:** 9 wells 5 oil, 1 gas, 3 failures. **Expected Ultimate Recovery:** 52,000 bbls. **Produced to July 1, 1939:** 29,500 bbls. **Remaining Reserve:** 22,500 bbls. **Deepest Hole:** Fox-Heflin's A. M. Holzmark 1, abnd 4146 ft in Yegua. **Development and Producing Methods:** 350 ft of 10-in surface casing, 7-in most cases through sand and perforated to overcome high gas/oil ratio. Field near depletion. Wells still flowing. **Outlets:** Small gas pipe line to Dirks area; Pettus Refining Co. oil line. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Sixnod Oil Corp., Miller-Donzis Oil Corp., Johnson & Bunham. **Remarks:** This is sometimes referred to as North Holzmark.

* Prospect. ‡ Gas field.

GEORGE RAY RANCH*

2 mi e Pettus field, centering around W. A. Moore, G. Neil, J. Gomez, E. Ray, A. B. & M., G. A. Ray & P. G. Millikin surveys, and on both sides of Blanco Creek, part in Goliad County. **Means of Discovery:** Trend drilling with original Pettus gas field and showings in various wells. **Development:** Dr. Hewitt et al's Ray abnd 4375 ft with shows. Union Producing Co.'s Ray 3, drilled in 1929, really discovery well of field, finding small production in the Pettus around 4000 ft, and deepening to below 6000 ft. It produced for a while, was reworked, but abnd. Union Producing Co. drilled 10 wells in the area, finding oil, gas or salt water with shows of oil and gas in every well. G. A. Ray 11 blew out June 23, 1930, at 3812 ft, ran wild and wrecked derrick and rig. It made only dry gas. **Principal Leaseholder:** Union Producing Co.

GRAYBURG

1 mi n Mineral, centering around Stephen Winship Survey. **Means of Discovery:** Geological information, evidence of faulting. **Discovery Data:** Grayburg Oil Co.'s Kimball 1, June 19, 1930, 200 bbls 34.6-gravity oil per day, 3553 ft, elev 370 ft (made salt water shortly after completed and abnd). **Structure:** Small structure cut by several faults. **Elevation:** 370 ft. **Formation, Depth, Gravity:** Pettus of Cockfield, Jackson age, 3550 ft; 34.6 gravity. **Productive Area:** 20 acres. **Development to July 1, 1939:** 19 wells, 3 oil, 16 failures. **Expected Ultimate Recovery:** 21,000 bbls. **Produced to July 1, 1939:** 20,255 bbls. **Remaining Reserve:** 745 bbls. **Remarks:** Well shut in, made only small amount of oil, no other development.

HICKS‡

4½ mi nw Normanna, J. M. Uranga gr. **Means of Discovery:** Trend play and geophysical information. **Discovery Data:** H. A. Pressy et al's R. T. Hicks 1, July 27, 1936, 450 lbs rock pressure, total depth 3568 ft, producing horizon 3482-3502 ft, set 5-in casing on bottom, perforated 3482-87 ft completed, 10,000,000 cu ft gas, elev 340 ft, derrick floor. Reworked and made some oil 3/16-in choke, tubing 350 lbs, casing 450 lbs. **Structure:** Closure against fault. **Elevation:** 340 ft. **Formation, Depth, Gravity:** Hockleyensis, 3480 ft, 37 gr, however, discovery well made mostly gas and was shut in. **Productive Area:** 20 acres. **Development to July 1, 1939:** 1 gas and 1 failure. **Developmænt and Producing Methods:** Completion through casing perforations. **Outlets:** None. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Acreage open. **Remarks:** Well shut in, made only small amount of oil, no other development.

HOLZMARK‡

4 mi sw Normanna, James A. York and Lyford surveys. **Means of Discovery:** Geological information. **Discovery Data:** Simms Oil Co.'s Holzmark 1, Sept. 7, 1930, 50,000,000 cu ft wet gas, 1600 lbs rock pressure, 900 lbs working pressure on open 4-in line, total depth 3552 ft, sand 3535-48 ft, shale 3548-52 ft. **Structure:** Lensing, folding and faulting. **Elevation:** 430 ft. **Formation, Depth, Gravity:** Upper portion of Hockleyensis in Jackson series, 3550 ft; distillate. **Productive Area:** 80 acres. **Development to July 1, 1939:** 5 wells, 2 gas and 3 failures. **Deepest Hole:** Simms Oil Co.'s Holzmark 2, 4458 ft, plugged back 3512 ft and completed as gasser. **Outlet:** United Gas System. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** Tide Water Associated Oil Co.

MORGAN RANCH*

10 mi se Beeville, J. Brown and Henry Eyles Survey. **Means of Discovery:** Considerable geological and geophysical work has been done in this general territory, and information obtained from both sources indicate several highs in this immediate sector. **Development:** Phillips Petroleum Co., Moody-Seagraves and Independent Oil & Gas Co. drilled several 6000-ft tests in the general area, but failed to develop production, although interesting showings were encountered. Independent and Moody-Seagraves well on Welder land had oil sand at 4360-66 ft. Well was near center of Eyles Survey. Top of Fayett about 4450 ft, top Hockleyensis just below 5000 ft. Phillips Petroleum Co.'s Morgan 1, abnd at 6697 ft, Dec. 1, 1934; had several oil shows.

NORMANNA

1 mi sw Normanna, central portion J. M. Uranga Grant. **Means of Discovery:** Geological information. **Discovery Data:** C. F. Nichols' Hicks Hahl 2, Dec. 10, 1929, 1,500,000 cu ft dry gas per day, 1920 ft. **Structure:** Structure of limited area, cut by faulting and steep dipping. **Elevation:** 400 ft. **Formation, Depth, Gravity:** Frio 1900 ft, gas; Hockleyensis, 3650 ft, 38.5 gravity. **Productive Area:** 120 acres; 60 acres oil, 60 acres gas. **Development to July 1, 1939:** 17 wells, 6 oil, 2 gas, 9 failures. **Expected Ultimate Recovery:** 210,000 bbls. **Produced to July 1, 1939:** 68,290 bbls. **Remaining Reserve:** 141,710 bbls. **Deepest Hole:** Wm. F. Morgan's W. L. Demory 1, 1937, at 5050 ft in Yegua. **Development and Producing Methods:** 250 ft 10-in surface casing, producing string atop sand. Wells still flowing. **Outlets:** Trucks to local market. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** James Dougherty and C. F. Nichols.

NORTH NORMANNA

1 mi n Normanna Townsite, J. M. Uranga Grant. **Means of Discovery:** Geological information. **Discovery Data:** Dirks Bros.' Magnus Beck 1, Feb. 14, 1938, 75 bbls 46.5-gravity oil per day, 3/16-in choke, 300 lbs tubing, 600 lbs casing pressures; producing horizon 4215-26 ft, total depth 4273 ft, perforated 4215-23 ft. **Structure:** Faulting and sand lensing. **Elevation:** 337 ft. **Formation, Depth, Gravity:** Pettus, 4210 ft, 46.5 gravity. **Productive Area:** 10 acres. **Development to Jan. 1, 1939:** 1 oil well. **Expected Ultimate Recovery:** 3766 bbls. **Produced to Jan. 1, 1939:** 3766 bbls. **Remaining Reserve:** Depleted. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Gulf Oil Corp., Dirks Bros. and George W. McMurry Drilling Co.

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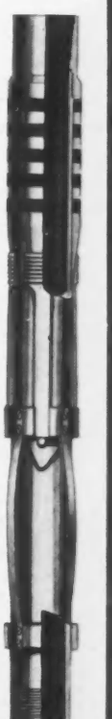

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NORTH TULSITA‡

2½ mi nw Pettus Townsite, George A. Kerr Survey. **Means of Discovery:** Subsurface geology and trend play. **Discovery Data:** Herbert Aid et al's Imogene Hall 2, completed Oct. 15, 1938, flowed 3,000,000 cu ft gas and sprayed small amount 45-gravity oil, ¼-in choke, 890 lbs tubing, 850 lbs casing pressures. Total depth 3598 ft, producing horizon sandy shale and shale 3564-3590 ft. **Structure:** Sand lensing against strike fault. **Elevation:** 393 ft. **Formation, Depth, Gravity:** Pettus sand, 3560-3600 ft, gas with spray 45-gravity oil. **Productive Area:** 20 acres. **Development to July 1, 1939:** 1 gas, 2 failures. **Deepest Hole:** Herbert Aid et al's I. Hall 1, abnd Aug. 14, 1938, 3830 ft in Yegua. **Development and Producing Methods:** 10-in surface casing 200 ft, 5½-in producing string to top of sand. **Rigs Running:** None. **Principal Leaseholders:** Herbert Aid, Fred Shield, Harvey & Henderson, Union Producing Co.

PETTUS

Includes Pettus Townsite and area NE, Pierce Miller, Thomas Hanson, L. C. Randolph, G. A. Kerr surveys. **Means of Discovery:** Geological information led to completion of gas wells. Oil well followed after shallow gas indicated structural high. **Discovery Data:** Mission Drilling Co.'s Ray 2, April 30, 1929, 20,000,000 cu ft gas, total depth 3902 ft, producing horizon 2815-2902 ft, elev 382 ft. **Structure:** Sand lensing body backed up against several faults. Sand up to 30 ft thick in portions of field. **Elevation:** 380 ft. **Formation, Depth, Gravity:** Whitsett of Jackson age, 2950 ft, gas; Pettus in Cockfield, 3900 ft, 45-gr oil. **Productive Area:** 840 acres in oil, 200 acres developed in gas. **Development to July 1, 1939:** 74 wells; 49 oil, 11 gas, 14 failures. **Expected Ultimate Recovery:** 7,238,236 bbls. **Produced to July 1, 1939:** 6,582,500 bbls. **Remaining Reserve:** 655,736 bbls. **Deepest Hole:** United Production Corp.'s Ray 39, total depth 7569 ft, plugged back 3936 ft, completed as oil producer Dec. 28, 1932. **Development and Producing Methods:** Field completely on pump with most wells making considerable water. **Outlets:** Houston Oil Co., Humble Pipe Line Co., Atlantic Pipe Line Co., local refineries. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Barnsdall Oil Co., Cosden Oil Corp., Elwood & Young, Glasscock, Hartzendorf & Cleveland, Houston Oil Co., Humble Oil & Refining Co., Magnolia Petroleum Co., McMurray Drilling Co., Pettus O. & R. Co., The Texas Co., Transwestern Oil Co., Union Producing Co.

PLUMMER

5 mi sw Caeser, Plummer subdivision, Chessman Survey. **Means of Discovery:** Trend drilling, geological data. **Discovery Data:** F. P. Hynes et al's Plummer 1-A, Aug. 31, 1935, 20,000,000 cu ft gas per day, ¼-in choke, 1225 lbs tubing, 1228 lbs casing pressures, total depth 2988 ft, producing horizon 2975-88 ft, elev 356 ft derrick floor. **Structure:** Sand lens against fault. **Elevation:** 360 ft. **Formation, Depth, Gravity:** Pettus in Cockfield, 3000 ft, 32.5-gr oil. **Productive Area:** 220 acres. **Development to July 1, 1939:** 22 wells; 13 oil, 2 gas, 7 failures. **Expected Ultimate Recovery:** 896,000 bbls. **Produced to July 1, 1939:** 172,612 bbls. **Remaining Reserve:** 723,388 bbls. **Deepest Hole:** El Toro Oil Co.'s W. A. Robertson 2 abnd July 1, 1937, 3113 ft; Pettus sand 3070-77 showed oil, gas and sw. **Development and Producing Methods:** Most wells still flowing or using outside gas. **Outlet:** Logco Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Ann Oil Co.; W. C. McBride, Inc.

RAY

8 mi sw Pettus, W. B. Blanchard, Brooks & Burleson Surveys, Section 21 of J. M. Uranga grant. **Means of Discovery:** Trend drilling. **Discovery Data:** Jamison & Byron et al's Campbell 1, March 29, 1935, 201 bbls oil, 3/16-in choke, 460 lbs tubing, 570 lbs casing pressure, total depth 3960 ft, producing horizon 3956-60 ft, elev 342 ft derrick floor. **Structure:** Sand lens against faulting, trending ne-sw. **Elevation:** 340 ft. **Formation, Depth, Gravity:** Pettus of upper Cockfield, 3950 ft, 47-gr oil. **Productive Area:** 420 acres. **Development to July 1, 1939:** 60 wells, 56 oil, 4 failures. **Expected Ultimate Recovery:** 2,940,000 bbls. **Produced to July 1, 1939:** 1,412,981 bbls; 42,481 bbls first six months, 1939. **Remaining Reserve:** 1,527,109 bbls. **Deepest Hole:** Rawlins et al's P. L. Campbell 1, abnd 4525 ft. **Development and Producing Methods:** Old field, wells on pump, making some water. **Outlet:** Atlantic Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Dirks Bros., N. V. Duncan, James P. Nash, Tide Water Associated Oil Co.

RUTLEDGE

2 mi ne Mineral, B. Q. Hadley Survey, Abst. 201. **Means of Discovery:** Trend drilling, geological data. **Discovery Data:** Worth Oil Co.'s Rutledge 1-A, May 1, 1935, 90 bbls, 33.2-gr oil, 5/16-in choke, 1150 lbs tubing, 1240 lbs casing pressure, total depth 3394 ft, producing horizon 3386-94 ft, elev 390 ft derrick floor. **Structure:** Small sand lens against fault. **Elevation:** 390 ft. **Formation, Depth, Gravity:** Pettus sand of Cockfield, 3400 ft, 33.2-gr oil. **Productive Area:** 20 acres. **Development to July 1, 1939:** 12 wells, 2 oil, 10 failures. **Expected Ultimate Recovery:** 22,352 bbls. **Produced to January 1, 1939:** 22,352 bbls. **Remaining Reserve:** depleted. **Deepest Hole:** L. W. Stieren's W. N. Fox 1, abnd 3585 ft in Yegua. **Outlets:** None. **Rigs Running July 1, 1939:** None.

SOUTH TULSITA

2 mi nw Pettus, George A. Kerr Survey. **Means of Discovery:** Subsurface geology. **Discovery Data:** Atlantic Refining Co.'s Courtney 1, Sept. 16, 1938, 65 bbls 45-gr oil in 35 hours, pumping; producing horizon 3658-65 ft; total depth 3665 ft. **Structure:** Sand lensing against fault. **Elevation:** 357 ft. **Formation, Depth, Gravity:** Pettus, 3650 ft, 45-gr oil. **Productive Area:** 30 acres. **Development to July 1, 1939:** 3 wells; 2 oil, 1 failure. **Expected Ultimate Recovery:** 50,000 bbls. **Produced to July 1, 1939:** 1803 bbls. **Remaining Reserve:** 48,197 bbls. **Deepest Hole:** Two Rivers Oil Co.'s Hartzendorf 1, abnd 1938 at 3907 ft in Yegua. **Development and Producing Methods:** 10¾-in csg, 225 ft, 7-in csg, 3654 ft, wells on pump. **Outlets:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Union Producing Co., Atlantic Refining Co., John O. Gibson.

* Prospect. ‡ Gas field.

SOUTHWEST PETTUS

1 mi sw Pettus, John W. Williamson, John Pace, George Kerr and A. Smalley surveys. **Means of Discovery:** Geological information. **Discovery Data:** J. M. Davis et al's George A. Ray 1, July 18, 1931, 380 bbls 45-gr oil, ¼-in choke, 50 lbs casing pressure, total depth 3925 ft, producing horizon 3920-25 ft, elev 327 ft. **Structure:** Sand lensing structure, similar to main Pettus field, faults however definitely divide two areas. **Elevation:** 330 ft. **Formation, Depth, Gravity:** Pettus, Cockfield, 3925 ft, 45-gr oil. **Productive Area:** 220 acres. **Development to July 1, 1939:** 27 wells, 19 oil, 8 failures. **Expected Ultimate Recovery:** 1,078,000 bbls. **Produced to January 1, 1939:** 981,500 bbls; current production included in Pettus. **Remaining Reserve:** 96,500 bbls. **Deepest Hole:** H. H. Weinert and C. R. & M. Drilling Co.'s Ray 1, abnd 4527 ft, 1931. **Development and Producing Methods:** Old field, all wells on pump. **Outlets:** Local refineries—Humble Pipe Line Co., Atlantic Pipe Line Co. **Principal Leaseholders:** Lonnie Glasscock, Transwestern Oil Co., The Texas Co.

STRAUCH

1½ mi nw Normanna, J. M. Uranga Grant, Section 19. **Means of Discovery:** Geological information. **Discovery Data:** Dirks Bros.' Strauch 1, March 20, 1937, 230 bbls 47-gr oil per day through 3/16-in choke, tubing 570 lbs, casing pressure 920 lbs, sand 4267-75 ft. **Structure:** Sand lensing and faulting. **Formation, Depth, Gravity:** Yegua, 4275 ft, 47-gr oil. **Productive Area:** 30 acres. **Development to July 1, 1939:** 7 wells, 2 oil, 5 failures. **Expected Ultimate Recovery:** 18,000 bbls. **Produced to January 1, 1939:** 12,572 bbls. **Remaining Reserve:** 5428 bbls. **Deepest Hole:** Dirks Bros.' Sinclair 1, abnd April 25, 1937, 4368 ft in Yegua. **Development and Producing Methods:** Field near depletion, wells on pump. **Outlet:** Atlantic Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Siznod Oil Corp.

THOMPSON RANCH*

12 mi e of Skidmore, William Burk, Garret Roach, M. de los Santos surveys. **Means of Discovery:** Likely a geophysical prospect inasmuch as considerable work was done in this immediate area, and big block taken by Humble Oil & Refining Co. **Development:** Four wells drilled. Humble & Hulburts' Chestnut 1, abnd in 1930 at 5008 ft. Humble's Thompson 1 was drilled later to 5987 ft. It had gas and oil sand 3984-4008 ft but showed salt water and 65 lbs on drill-stem test. Another drill-stem test at 4850-84 ft showed 300 ft oil and salt water and 350 lbs pressure. Heavy gas show at 5354-5405 ft. Humble's J. C. Wood 1, abnd 5128 ft July 16, 1935. Humble's D. Fox 1, abnd 5667 ft. Humble's M. Fox abnd 5512 ft May 2, 1939. **Principal Leaseholders:** Humble, Magnolia Petroleum Co., Sun Oil Co.

TULETA

1 mi e Tuleta, Sections 2, 3, 12 and 13, J. M. Uranga grant. **Means of Discovery:** Geological information. **Discovery Data:** C. F. Nichols' J. P. Harris 1, July 21, 1932, 450 bbls, 45.5-gr oil, ⅝-in choke, 425 lbs tubing, 825 lbs casing pressure, total depth 4095 ft, producing horizon 4087-95 ft, elev 334 ft derrick floor. **Structure:** Small sand lensing proposition with the dip to the east. **Elevation:** 335 ft. **Formation, Depth, Gravity:** Pettus, 4100 ft, 45.5-gr oil; Yequa, 4300 ft, 44-gr; 4400 ft, 43.9-gr. **Productive Area:** 160 acres, 90 acres oil, 70 acres gas. **Development to July 1, 1939:** 21 wells, 10 oil, 3 dry, 8 failures. **Expected Ultimate Recovery:** 146,500 bbls. **Produced to Jan. 1, 1939:** 146,500 bbls; depleted. **Deepest Hole:** Clymore & Grisham's Rapp & Hatch 1, abnd in Yegua 4418 ft. **Outlets:** None. **Principal Leaseholders:** Acreage open.

TYNAN*

Centering around the town of Tynan. **Means of Discovery:** Magnolia Petroleum Co. and several other companies worked area with torsion balance 1928. Shell Oil Co., refraction seismograph. Dr. Hewitt, geophysics in 1930. Tom Cox, magnetometer in 1939; Geophysical Service, Inc., reflection seismograph in 1939. **Development:** Undrilled. **Principal Leaseholder:** Seaboard Oil Corp.

VOSS

3 mi e Mineral, Samuel May Survey. **Means of Discovery:** Trend play along fault. **Discovery Data:** R. B. Swiger (later Devonian Oil Co.) Voss 1, June 21, 1936, 98 bbls 47-gr oil per day, tubing pressure 250 lbs, casing 450 lbs, ⅛-in choke, 4015 ft. **Structure:** Sand closure against ne-sw fault. **Elevation:** 340 ft. **Formation, Depth, Gravity:** Pettus sand Cockfield, 4000 ft, 47-gr oil. **Productive Area:** 100 acres. **Development to July 1, 1939:** 12 wells; 7 oil, 5 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 72,360 bbls. **Remaining Reserve:** 26,740 bbls. **Deepest Hole:** E. S. Price et al's Weiss 2, 4553 ft, abnd 1931. **Development and Producing Methods:** Wells on pump. **Outlets:** Small amount of gasoline, delivered to local refinery. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Devonian Oil Co.

WEISS‡

4 mi sw Pettus, B & B Survey, Abst. 130. **Means of Discovery:** Geological data. **Discovery Data:** E. S. Price et al's Weiss 1, 1930, 31,000,000 cu ft gas per day spraying gasoline, total depth 4415 ft, elev 319 ft, sand 4411-15 ft. **Structure:** Sand lensing against fault. **Elevation:** 320 ft. **Formation, Depth, Gravity:** Upper Yegua, 4400 ft, clean distillate. **Productive Area:** 120 acres. **Development to July 1, 1939:** 7 wells; 2 gas, 5 failures. **Expected Ultimate Recovery:** Gas field with small amount gasoline, no estimate. **Deepest Hole:** J. R. Dougherty et al's L. E. Weiss 1, abnd 4653 ft March 14, 1937. **Outlets:** Small amount of gasoline, delivered to local refinery. **Rigs Running July 1, 1939:** None.

WEST TULETA

1 mi w Tuleta, Sections 5, 6, 10, 9, 8, 20 and 21 of J. M. Uranga Grant. **Means of Discovery:** Geological information subsurface correlations on failures drilled on east flank of structure. **Discovery Data:** Dirks Bros.' Skinner-Harris 1, June 12, 1934, 75

bbls 47.2-gr oil and 20,000,000 cu ft gas per day, 1240 lbs casing pressure, total depth 3973 ft, producing horizon 3950-62 ft, 7-in casing set 3950 ft. **Structure:** Sand lensing and folding trending northeast and southwest, considerable faulting. **Elevation:** 340 ft. **Formation, Depth, Gravity:** Pettus upper Cockfield, 3900 ft, 47-gr; Whitsett, Jackson age, 3000 ft. **Productive Area:** 1050 acres, 920 oil, 250 gas. **Development to July 1, 1939:** 108 wells; 94 oil, 2 gas, 12 failures. **Expected Ultimate Recovery:** 3,210,000 bbls. **Produced to July 1, 1939:** 1,609,038 bbls. **Remaining Reserve:** 1,600,962 bbls. **Deepest Hole:** Edwin M. Jones' Rapp 1, abnd July 31, 1930, 6062 ft. **Development and Producing Methods:** Wells on pump making large amount of water. **Outlets:** Atlantic Pipe Line Co., Pettus Refining Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Blanco-Buchanan, Dirks Brothers, Heyser-Heard-Walton, Mills Bennett Production Co., Salt Dome Oil Corp., The South Oil Corp.

YOUGEEN*

2 mi w Yougeen, Bee County School Land, M. R. H. Love, J. B. Madray and S. Allen surveys. **Means of Discovery:** Geophysical work. **Development to July 1, 1939:** Felmont Oil Corp. abnd J. T. Earnest 1 at 6340 ft, June 1, 1935; topped Hockleyensis 4625 ft, Cockfield 5546 ft, Yegua 5706 ft, elev 175 ft, derrick floor. Oil shows 4729½-39½ ft and 5715-82 ft. **Principal Leaseholders:** Felmont Oil Corp. Magnolia Petroleum Co.

BEXAR COUNTY

ADKINS (JONES)*

1½ mi se Adkins, centering around J. Pena Survey. **Means of Discovery:** Surface indications. **Development:** About 23 wells have been drilled, 11 of which made small oil producers in Navarro sands 600 ft. These wells have been sunk since 1921, interest being revived from time to time. Despite the age of the area, not more than 5000 bbls of crude have been produced. During first 6 months of 1929, records show recovery of 179 bbls. Deepest test is McClanahan et al's E. Shadrock 1, abnd 1923 in Edwards limestone 2008 ft after showing sulphur water. Two wells pumping. **Principal Leaseholders:** Jones and associates.

ALTA VISTA

10 mi s San Antonio, J. Manuel Urriegas, J. Wilson surveys. **Means of Discovery:** Geological information, surface indications. **Discovery Data:** First production about 1912 from shallow sands 220-250 ft with small pumpers. Several years later Austin chalk production was established below 1000 ft, 1 well making 150 bbls per day. Oil ranged upward from 14 gr. **Structure:** Sand lensing, faulting, part of production from crevice. **Elevation:** 600 ft. **Formation, Depth, Gravity:** Navarro, 250 ft, 14-gr; Austin chalk, 1100 ft, 16-gr. **Productive Area:** 280 acres. **Development to July 1, 1939:** 100 wells, 65 oil, 4 gas, 41 failures. **Expected Ultimate Recovery:** 224,000 bbls. **Produced to July 1, 1939:** 110,913 bbls. **Remaining Reserve:** 113,087 bbls. **Deepest Hole:** 4535 ft; abnd in Trinity. **Development and Producing Methods:** All wells on pump. Austin chalk tests completed by setting casing atop pay and drilling formation with cable tools, then acidizing. **Outlet:** By trucks to local market. **Rigs Running, July 1, 1939:** 2. **Principal Leaseholders:** B. A. Dreibrobt, Shoe String Oil Co., Philtop Oil & Gas Co.

COFFEY

10 mi s San Antonio, F. Rodriguez Survey. **Means of Discovery:** Trend drilling on known fault. **Discovery Data:** I. L. Dingman and Russell Leasing Co.'s R. J. Coffey, March 7, 1934, 1,500,000 cu ft gas, 1034 ft; producing horizon 1017-34 ft; elev 591 ft, deepened to 1325 ft, pb, abnd. **Structure:** Faulted structure, production on upthrow side. **Elevation:** 590 ft. **Formation, Depth, Gravity:** Taylor marl at or near top of Austin chalk, 1050 ft, 12.9 gr. **Productive Area:** 60 acres, 20 in oil, 40 acres undeveloped. **Development to July 1, 1939:** 15 wells, 3 oil, 11 failures, 1 gas. **Expected Ultimate Recovery:** 16,000 bbls. **Produced to July 1, 1939:** 4190 bbls. **Remaining Reserve:** 11,810 bbls. **Deepest Hole:** Joe Dupree's S. G. Winter 1 abnd 1853 ft, June 18, 1936, after testing sulphur water in Edwards lime topped at 1700 ft; elev 581 ft derrick floor. **Development and Producing Methods:** All wells on pump, making large amount of water. **Outlet:** By trucks to local market. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** Matador Gas Co.

COOKSEY

15 mi e San Antonio, J. W. Rjalls Survey. **Means of Discovery:** Geological information. **Discovery Data:** Penn Oil Co.'s Cooksey 1, Oct. 18, 1930; 100 bbls 35.8-gr oil per day; total depth 1461 ft; producing horizon 1410-61 ft; elev 600 ft. **Structure:** Sand and shale producing formation, back up against NE-SE faulting. **Elevation:** 600 ft. **Formation, Depth, Gravity:** Taylor marl series 1500 ft, 36 gr. **Productive Area:** 65 acres. **Development to July 1, 1939:** 21 wells; 14 oil, 7 failures. **Expected Ultimate Recovery:** 69,666 bbls. **Produced:** 69,666 bbls, depleted. **Deepest Hole:** Penn Oil Co.'s Don Kosub 1, abnd 2259 ft, Dec. 19, 1930. **Rigs Running July 1, 1939:** None.

ECKERT

6 mi se San Antonio, includes P. L. Buquor, Gotari No. 5, No. 4, Juan Montez No. 52, and No. 4 surveys. **Means of Discovery:** Showings of oil in water wells. **Discovery Data:** F. H. Eckert & Son s Paul Dobrowolski 1, Sept. 11, 1928, 6 bbls 35.4-gr oil, 702 ft, elev 575 ft, sand 687-700 ft. **Structure:** Sand lensing against several NE-SW faults, with minor cross faulting. **Elevation:** 700 ft. **Formation, Depth, Gravity:** Navarro sands, 700 ft, 35.4 gr; Lower Taylor, near top of Austin chalk, 1060 ft, gas. **Productive Area:** 980 acres, 860 acres oil, 120 acres gas. **Development to July 1, 1939:** 171 wells; 136 oil, 7 gas, 28 failures. **Expected Ultimate Recovery:** 1,500,000 bbls. **Produced to January 1, 1939:** 827,426 bbls. **Remaining Reserve:** 672,574 bbls. **Deepest Hole:** F. H. Eckert & Son's A. C. Brehm 4; 1932, top Edwards 1473 ft, drilled to 1516 ft and plugged to upper sand. **Development and Producing Methods:** All wells on pump from central powers. **Outlet:** Pioneer Oil & Refining Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Bowman & Richards, Eckert & Son, Gatlin Oil Co., A. E. Johnson, Fritz Knust, Miller & Pegg, Rosata & Co., Swearingen Oil Co., Swearingen & White, Trio Oil Co.

GAS RIDGE

3 mi sw San Antonio, M. F. Rodriquez, Francisco Rivas, F. F. Morales and Munos surveys. **Means of Discovery:** Geological information. **Discovery Data:** Meecham et al's Oliver 1, completed 1912, 850 ft, 12,000,000 cu ft gas. Shallow oil production developed in a few wells in a sand ranging from 300 to 500 ft. **Formation, Depth, Gravity:** Midway, Navarro, Taylor, Austin chalk. **Productive Area:** 450 acres; 80 acres oil, 450 gas. **Development to July 1, 1939:** 116 wells; 20 oil, 82 gas, 14 failures. **Expected Ultimate Recovery:** 80,000 bbls. **Produced to January 1, 1939:** 66,130 bbls. **Remaining Reserve:** 13,870 bbls. **Deepest Hole:** American Gas Co.'s Oliver 5, 3461 ft in Glenrose, abnd June 22, 1938. **Development and Producing Methods:** Shallow wells on pump. Gas wells producing on vacuum. **Outlets:** All by trucks to local market; United Gas System. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Ridge Gas & Oil Co. United Gas System controls gas production.

LA COSTE

15 mi west of San Antonio, Medina Irrigated Farms subd. **Means of Discovery:** Surface and subsurface data. **Discovery Data:** R. W. Fair's Medina Irrigated Farms Co. 1, Jan. 22, 1938; 20 bbls 31-gr oil per day, pumping, 1150-90 ft. **Structure:** Faulted structure with nose. **Elevation:** 722 ft. **Formation, Depth, Gravity:** Anacacho limestone, 1150 ft, 31-gr oil. **Productive Area:** 80 acres; 40 oil, 10 gas, remaining 40 acres undeveloped. **Development to July 1, 1939:** 4 wells; 2 oil, 1 gas, 1 failure. **Expected Ultimate Recovery:** 26,000 bbls. **Produced to July 1, 1939:** 1648 bbls. **Remaining Reserve:** 24,352 bbls. **Deepest Hole:** R. W. Fair's Goode 1, March 27, 1938, 1227 ft. **Development and Producing Methods:** 10-in csg, 40 ft; 7-in csg, 1140 ft. All wells on pump. Acidization of formation before completion. **Outlet:** Trucks to local market. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** R. W. Fair, J. H. Liles.

LONE OAK

16 mi e San Antonio, J. M. Arocha Grant. **Means of Discovery:** Geological information and trend drilling on known fault. **Discovery Data:** Meaders et al's Cantu 1, Oct. 1, 1934, pumping 25 bbls 33.4-gr oil, total depth 2255 ft; elev 576 ft derrick floor; plugged back 1750 ft; 6⅝-in set 1435 ft; sands 1480-90 ft and 1612-20 ft. **Structure:** Sand lens against faulting. **Elevation:** 575 ft. **Formation, Depth, Gravity:** Navarro-Taylor series, 1750 ft, 33.4-gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 3 wells, 1 oil, 2 failures. **Expected Ultimate Recovery:** 3733 bbls. **Produced to January 1, 1939:** 3733 bbls, depleted. **Deepest Hole:** Discovery well.

MACDONNA

2 mi e Macdonna, Jose M. Barrera No. 58. **Means of Discovery:** Trend play. **Discovery Data:** F. M. Shaver's A. W. Bitter 2, Aug. 2, 1936, pumping 5 bbls 39-gr oil per day; total depth 1324 ft; producing horizon 476-521 ft; plugged back 521 ft; 8-in casing 476 ft. **Structure:** Sand lensing. **Elevation:** 730 ft. **Formation, Depth, Gravity:** Navarro, 525 ft, 39-gr. **Productive Area:** 30 acres. **Development to July 1,** 1939: 9 wells, 3 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** See Von Ormy. **Deepest Hole:** Discovery well. **Development and Producing Methods:** Several shallow wells on pump. **Outlets:** By trucks. **Rigs Running July 1, 1939:** None.

MISSION

12 mi s from San Antonio on Leon Creek in F. Rodriquez, A. Vavarro and I. Perez surveys. **Means of Discovery:** Shallow well drilled for water encountered oil. Deeper drilling developed other producing level. **Discovery Data:** Frank Lynn's Fee 1, completed 1904, drilling for water encountered oil about 110 ft, later drilling developed production around 1000-1100 ft. **Structure:** Faulting, northeast and southwest. **Elevation:** 700 ft. **Formation, Depth, Gravity:** Contact of Midway and Navarro, 100 ft, 32-gr, Taylor above top of Austin chalk, 1100 ft, 16-gr. **Productive Area:** 275 acres, 200 oil, 75 gas. **Development to July 1, 1939:** 50 wells, 33 oil, 3 gas, 14 failures. **Expected Ultimate Recovery:** 68,875 bbls. **Produced to January 1, 1939:** 68,875 bbls, depleted. **Deepest Hole:** Several Edwards limestone tests to around 2000 ft drilled in general areas. **Outlets:** By trucks to local market. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Van Petty. **Remarks:** This field was abandoned in 1928, except for several very shallow wells which are pumped about once each week.

MISSION ESPADA

Near Mission Espada, 10 miles s of San Antonio. **Means of Discovery:** Surface geology. **Development:** 8 wells have been drilled, not going below 750 ft. Two tests have produced at 150 ft in the Midway, making about ¼-bbl of oil per day each. **Principal Leaseholders:** LeComte et al.

THELMA*

1 mi w Thelma, Martinez Survey. **Means of Discovery:** Trend drilling on known fault. Several shows encountered in previously drilled wells. **Development:** Noble & Aiken's R. W. Devilbiss 1 abnd March 25, 1935, upper position of Austin chalk. Sandy lime encountered 2214-58 ft, showing gas, and sandy lime with oil and gas from 2058-75 ft. Shale and lime with slight oil show at 2075-2222 ft and top of Austin chalk at 2022-32 ft. It bailed consider-

* Prospect. ‡ Gas field.

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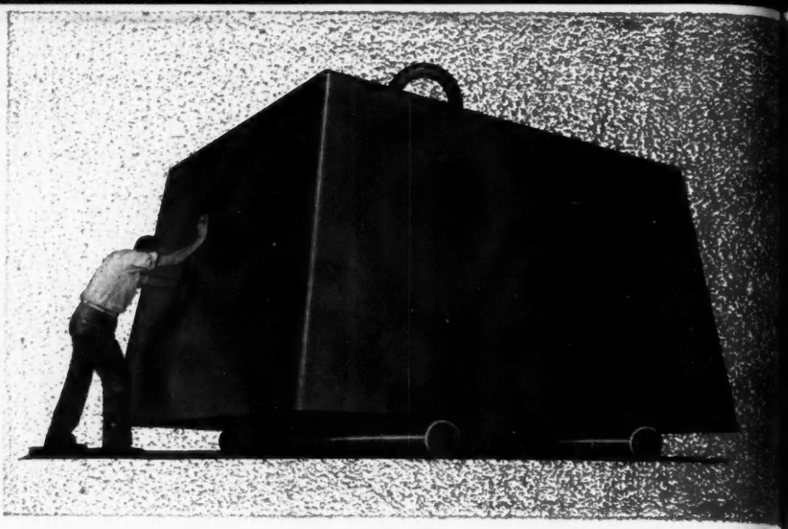

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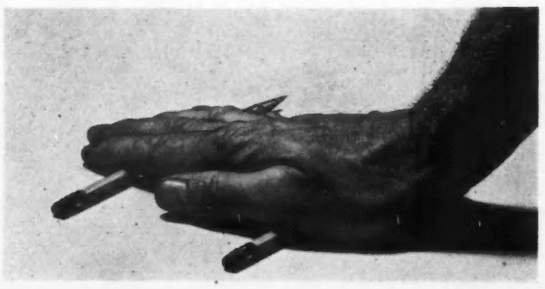

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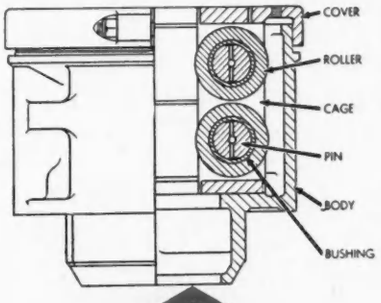

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BUILT FOR HEAVY TORQUE LOADS

FUNDAMENTAL IMPROVEMENTS in design give Baash-Ross Type 2R Roller Kelly Drive Bushings the strength to withstand all of the punishment that modern heavy torque loads and high rotation speeds can impose on them. Each of the driving surfaces of the kelly is contacted by two extra large diameter rollers, and by no other part of the drive bushing. These big rollers reduce frictional resistance to feeding to the minimum, and cannot tear or gall the kelly. Every part of the Drive Bushing is big, strong, heavy—and virtually all of the wear that occurs is absorbed by a low-cost replaceable part. Here are the outstanding features:

EXTRA LARGE ROLLERS

provide adequate contact area with the driving surfaces of the kelly, and prevent any tendency to corrugate the kelly faces. The rollers are very hard, hence wear on their outer surface is greatly reduced.

REPLACEABLE ROLLER BUSHINGS

These bushings eliminate wear on the inside of the rollers. They are made of a special high-hardness bearing material and give long service. The roller bushings can be replaced cheaply when necessary.

REVERSIBLE ROLLER PINS

The large diameter of the roller pins reduces bearing pressure and eliminates pin breakage. The pins are case-hardened and ground to minimize wear. When one side of the pins becomes worn, the other side can be turned inward to take the bearing pressure, thus delivering double service. Thorough lubrication is assured by individual grease ducts to each pin.

HEAVIER, STRONGER, MORE ECONOMICAL IN SERVICE

Remember, Baash-Ross Type 2R Roller Kelly Drive Bushings are BUILT FOR MODERN DRILLING SERVICE. The increased weight of the bushing and reduced friction make the use of table locks unnecessary while drilling, reaming, and even when jarring. Great strength comes from generous proportions of every part. Virtually all the wear is absorbed by the replaceable roller bushing—the cheapest part in the assembly.

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able oil, but was junked. Four other wells drilled since that time have failed to develop anything of interest.

VON ORMY

Centering around Von Ormy, F. Rolen League and Labor, S. McCullough, Stephen Jett, James Simpson, J. M. Barrera surveys. **Means of Discovery:** Geological information and surface indications; faulting evidenced. **Discovery Data:** Wm. A. Biel's Fee 1, June 24, 1931, pumping 3 bbls 36-gr oil; total depth 714 ft; producing horizon 709-14 ft, 6⅝-in casing 461 ft. **Structure:** Series of sand and sandy shale strikes backed up against small NE-SW fault. **Elevation:** 675 to 725 ft. **Formation, Depth, Gravity:** Navarro sand and shale, 700 ft, 36-39-gr. **Productive Area:** 850 acres, 650 oil, 200 undeveloped. **Development to July 1, 1939:** 192 wells, 160 oil, 32 failures. **Expected Ultimate Recovery:** 680,000 bbls. **Produced to July 1, 1939:** 137,995 bbls. **Remaining Reserve:** 542,125 bbls. **Deepest Hole:** Trawalter et al's Trawalter 2, 1615 ft, fresh water well in Edwards lime, May 1, 1934. **Development and Producing Methods:** All wells on pump from central powers. Majority of wells set casing atop sand section. **Outlets:** Trucks to local markets. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Am. Prod. Co. & Wm. Stewart, E. M. Baker, Jim Beard, H. J. Knox, Nuswald Oil & Gas Co., T. Owen, Roger Putnam, Shadrock Oil Co., Spudder Oil Co., B. Saltner, A. G. Trawalter. **Remarks:** Production includes Macdonna.

YTURRI-SOUTHTON

1 mi sw Southton, J. de la Garza, J. Sandoval, Juan Montes surveys. **Means of Discovery:** Geological information, trend plan along series of surface fault. **Discovery Data:** San Antonio Oil Co.'s Yturria 1, May 11, 1922, 15 bbls 34-gr oil, 900 ft, elev 545 ft. **Structure:** Faulting and sand lensing, sand approximately 10 ft thick. **Elevation:** 545 ft. **Formation, Depth, Gravity:** Navarro sand, 900 ft, 34-gr. **Productive Area:** 650 acres. **Development to July 1, 1939:** 144 wells, 120 oil, 24 failures. **Expected Ultimate Recovery:** 720,000 bbls. **Produced to July 1, 1939:** 592,368 bbls; 9846 bbls recovered first six months, 1939. **Remaining Reserve:** 127,632 bbls. **Deepest Hole:** Wm. H. Reynolds' Yturri 1, abnd 3852 ft in Trinity. **Development and Producing Methods:** All wells on pump, using central powers. **Outlets:** Pioneer Oil & Refining Co. line to Somerset. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Albert Beasley, Ginter Lange Oil Co., Rentex Oil Co., Salado Oil Co.

SOMERSET

1 mi s Somerset, includes areas including and between John Sharp and John Wilson surveys, part in Atascosa County. **Means of Discovery:** Water well showed oil and was completed as a commercial producer. **Discovery Data:** C. Kurz's Fee 1, 1911, pumping 20 bbls 34-gr oil, 900 ft. **Structure:** Series of sand lenses, broken by faulting. **Elevation:** 680 ft. **Formation, Depth, Gravity:** Navarro-Taylor Series ranging from 900 to 2100 ft, 32 to 44-gr depending upon portion of field. **Productive Area:** 11,390 acres. This is an over-all calculation on the field. Some portions of field non-productive due to sand lensing and faulting. **Development to July 1, 1939:** 1247 wells drilled; 1185 oil, 14 gas, 48 failures. **Expected Ultimate Recovery:** 11,390,000 bbls. **Produced to July 1, 1939:** 10,935,303 bbls. **Remaining Reserve:** 454,697 bbls. **Deepest Hole:** Milham Corp. (Ballard & Underwood) Easterwood 1, abnd 5311 ft in Trinity. **Development and Producing Methods:** Field was developed between 1915 and 1922. 6⅝-in casing set atop pay. All wells on pump powered by central units. **Outlets:** Pioneer Oil & Refining Co., Frontier Oil Co., Texas Petroleum Co. and Grayburg gathering systems, trucks and pipe line to Phoenix Refinery in San Antonio. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Arkmo Oil Co., Ball & DuBose, Cal-Tex, Caruthers Co., Consolidated Cities Service, Frontier Oil Co., Grayburg Oil Co., Walter Hamilton Trs., Helvetia Oil Co., Idaho Oil Co., F. M. Johnson, Johnson & Bibbs, L. Kaufman, A. J. Kirm, Geo. Klemcke, A. A. Kurz, Kurz Oil Co., Lain Oil Co., Geo. Leonard, W. C. McBride, Inc., National Oil Co., Omilak Oil Co., Petroleum Venture, Ed Rosenberg, St. John Amerlia, Somerset Oil Co., Somerset Crude Oil & Refining Co., Surtees & Nelson, Texas Petroleum Co. **Remarks:** First field in South Texas to produce 1,000,000 barrels of crude. Includes area to northeast referred to as South Medina.

BROOKS COUNTY

ALTA MESA

25 mi sw Falfurrias, Las Mestinas gr. **Means of Discovery:** Drilling water wells, encountered gas. **Discovery Data:** W. W. Jones' Fee 1, June 2, 1926, 2,000,000 cu ft gas, total depth 1220 ft; sand 1200-20 ft; elev 289 ft. **Structure:** Likely a domal type structure, little information, indication of being a salt dome. **Elevation:** 260-290 ft. **Formation, Depth, Gravity:** Oakville, 1200 ft, gas; Catahoula, 2400 ft, 24 gr; 3000 ft, 24 gr; 3500 ft, 25 gr. **Productive Area:** 1500 acres, 1000 oil, 350 gas, 500 acres undeveloped. **Development to July 1, 1939:** 37 wells; 28 oil, 2 gas, 7 failures. **Expected Ultimate Recovery:** 4,500,000 bbls. **Produced to July 1, 1939:** 413,787 bbls. **Remaining Reserve:** 4,086,213 bbls. **Deepest Hole:** The California Co.'s (Standard of Texas) Garcia, 8022 ft; lost drill in hole, plug back and tested upper sands. **Development and Producing Methods:** Majority of wells flowing and making little water. 200 ft 10-in surface casing; producing string atop sand. **Outlet:** Standard of Texas line to railroad. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Standard Oil Co. of Texas, Mestena Oil & Gas Co.

ALTA VERDE

20 mi sw Falfurrias, GC&SF Survey, 309, 312, 436, 313. **Means of Discovery:** Surface geology; Humble Oil & Refining Co. and Shell Oil Co. worked area with geophysical equipment, 1928-1929. **Discovery Data:** Dick Young et al's Singer 1, March 18, 1936; pumping 80 bbls 21.5-gr oil; total depth 926 ft; producing horizon 916½-26 ft; 6⅝-in 915 ft. **Structure:** Salt dome, structure cut by some fault. **Elevation:** 370 ft. **Formation, Depth, Gravity:** Caprock (Miocene), 900 ft, 21.5 gr. **Productive Area:** 160 acres; 100 oil, 60 gas. **Development to July 1, 1939:** 27 wells; 5 oil, 2 gas, 20 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 24,388 bbls. **Remaining Reserve:** 75,612 bbls. **Deepest Hole:** Southern Crude Oil Purchasing Co.'s Holbien Wormser 1, 5096 ft, elev 370 ft. **Development and Producing Methods:** Several shallow wells on pump. **Outlet:** By truck to local market. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** O. S. Stutenroth, Humble Oil & Refining Co., Bishop & Woods.

GYP HILL*

SW Falfurrias, centering around Section 331. **Means of Discovery:** Conceded as salt dome with gypsum, typical of salt dome caprock at surface. Dome is immediately south of a salt lake and is marked by surface high just south of this lake. **Development:** Ten wells drilled, one showing some oil, The Texas Co.'s Lasater 3, deepest hole, abnd Dec. 6, 1927, 4878 ft; probably in Cockfield; Texas Gulf Producing Co.'s T. S. Proctor 1, Block 2, Section 20, Los Olmos y Loma Blanca Survey, 2 mi s Falfurrias, drilled to 6028 ft in 1937; ran electric formation test and abnd. Later taken over by Southern Minerals Corp. et al and deepened to 7726 ft, making test between 6300-6870 ft, all showing salt water, abnd Feb. 16, 1939. **Principal Leaseholders:** Southern Minerals Corp., Texas Producing Co., T. C. Young.

NORTH ALTA MESA‡

6 mi n of Alta Mesa field, B. Garcia Tract No. 1, R. G. Salinas Survey. **Means of Discovery:** Geophysical and geological data. **Discovery Data:** Standard Oil Co. of Texas' Mestena Oil & Gas Co. 1 (lse 2), Aug. 25, 1937; estimated 1,000,000 cu ft dry gas, 3/4-in ch; open pressure 250 lbs, closed pressure 790 lbs; perforated 1915 to 1935 ft; total depth 6780 ft; producing horizon 1915-44 ft. **Structure:** Domal type. **Elevation:** 280 ft. **Formation, Depth, Gravity:** Catahoula, 1915 ft. **Productive Acres:** 20. **Development to July 1, 1939:** 9 wells, 1 gas, 8 failures. **Deepest Hole:** Discovery. **Development and Producing Methods:** 20-in csg, 100 ft; 16-in csg, 1273 ft; 10¾-in csg, 3968 ft; above records on discovery well. **Outlet:** Shut in. **Principal Leaseholders:** Superior Oil Co., Standard Oil Co. of Texas, Atlantic Refining Co.

PALO BLANCO

Palo Blanco de Maguellos Grant, Y Pena Survey, nw part of county. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** Houston Oil Co. and Shell Oil Co.'s Lassiter 1, Sept. 22, 1929, 25,000,000 cu ft gas; spraying small quantity 45-gr oil; total depth 4120 ft; producing horizon 4117-20 ft; elev 341 ft. **Structure:** Domal type structure, likely salt dome. **Elevation:** 340 ft. **Formation, Depth, Gravity:** Oakville, 1200 ft, gas; Jackson, 4100 ft, 45.5-gr. **Productive Area:** 80 acres. **Development to July 1, 1939:** 10 wells, 1 oil, 3 gas, 6 failures. **Expected Ultimate Recovery:** Gas field, no estimate. **Deepest Hole:** Houston Oil Co.'s Holbein-Wormser 1, abnd 6603 ft. This well was completed Jan., 1930, at 4138-50 ft, flowing 300 bbls 45.5-gr oil with 10,000,000 cu ft gas per day on ⅞-in choke, but was drilled deeper. **Outlet:** No connections. **Rigs Running:** None. **Principal Leaseholder:** Union Producing Co.

BURLESON COUNTY

CHREISMAN

6½ mi w Chreisman, 13 mi e Rockdale, Eliza Sante Survey. **Means of Discovery:** Geological prospect. **Discovery Data:** Red Bank Oil Co.'s Coffield 1, May 17, 1938, 20 bbls 34.5-gr oil per hour; ¼-in ch; 425 lbs tubing, 775 lbs casing; producing horizon 6167-72½ ft, total depth 6172½ ft. **Structure:** Faulted, production on upthrown of northeast-southwest strike fault. **Elevation:** 552 ft. **Formation, Depth, Gravity:** Edwards, 6165 ft; 34.5 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 4 wells, 1 oil, 3 failures. **Expected Ultimate Recovery:** 25,000 bbls. **Produced to July 1, 1939:** 9737 bbls. **Remaining Reserve:** 15,263 bbls. **Deepest Hole:** Walter Blumenthal's Crain 1, abnd May 30, 1936, 6340 ft in Edwards limestone. **Development and Producing Methods:** 10¾-in csg, 200 ft; 7-in csg, 6169 ft. Discovery well on pump. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Red Bank Oil Co., Humble Oil & Refining Co., Gulf Oil Corp., H. H. Coffield, Superior Oil Co., Magnolia Petroleum Co., The Texas Co., Shell Oil Co.

CALDWELL COUNTY

BRANYON

6 mi s Lockhart, John Neill, James Pinchback, D. Cooper, R. B. Jamison, J. R. Miller, and other surveys. **Means of Discovery:** Geological information, trend drilling on known fault. **Discovery Data:** The Texas Co.'s (J. H. Butte) F. M. Branyon 1, April 29, 1931, 300 bbls 37-gr oil, total depth 2244 ft, producing horizon 2241-44 ft. **Structure:** Crevices and broken chalk against series of NE-SW faults. **Elevation:** 360-400 ft. **Formation, Depth, Gravity:** Austin chalk, 2066-2300 ft, 37-gr, Edwards lime 2400 ft, 36-gr. **Productive Area:** 1200 proved, 750 developed. **Development to July 1, 1939:** 322 wells drilled, 287 oil, 1 gas, 34 failures. **Expected Ultimate Recovery:** 7,850,000 bbls, January 1, 1939. **Produced to January 1, 1939:** 40,800 bbls. (Later production included in Luling.) **Remaining Reserve:** 6,329,471 bbls. **Deepest Hole:** Adams & Lyle's Kelly 1, abnd 2680 ft. **Development and Producing Methods:** 20-40 ft 10-in surface casing, 5-7-in producing

* Prospect. ‡ Gas field.

string atop producing horizon. Wells acidized in Edwards lime with 300 gallons and Austin Chalk, 2000 to 5000 gallons. All wells on pump, most being on light individual units. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Louis Crouch, Ellmag Oil Corp., Four Link Oil Co., Grayburg Oil Co., Emery H. Hughes, Lanning & Coffield, Magnolia Petroleum Co., R. V. Muckelroy, Murchison, Closuit & Reed, Philtop Oil & Gas Co., Prairie Lea Prod. Co., Rio Bravo Oil Co., Spokane-Oklahoma Gas & Oil Co., Tex-State Oil Co., Trio Oil Co., Frank R. Williams, Adams & Richards, Fred J. Adams, Memphis Natural Gas Co. **Remarks:** Brown Drilling Co.'s G. N. Blackwell 1, John Roe Survey, 1½ mi se Branyon field, completed Feb. 18, 1937; drilled to 2347 ft, 1 ft in Edwards lime and tested sulphur water. Plugged back to 2190 ft and completed 15 bbls day on pump after acidizing. Top chalk 1918 ft, 6⅝-in casing 2911 ft. Referred to by some as Burdette Wells field, rather it is an extension to Branyon. Burdette Wells fields proper on main Luling fault extending into Branyon field.

BUCHANAN

5 mi e Lockhart, C. W. Cannon, W. Spillers surveys. **Means of Discovery:** Geological information, trend play. Indications of faulting at surface. **Discovery Data:** Al Buchanan et al's L. K. Brown 1, July 10, 1929, flowed 77 bbls 38.2-gr oil day from 2053 ft, top serpentine 1740 ft, elev 469 ft, 6⅝-in casing set 1730 ft, 4¾ liner 340 ft to total depth. **Structure:** Production mainly on upthrow side of NE-SW faulting. Several wells on other side in serpentine. **Elevation:** 470 ft. **Formation, Depth, Gravity:** Midway-Navarro, 950 ft, gas; serpentine, 1700 ft; Austin chalk 2200 ft, 39.5-gr; Edwards lime, 2450 ft. **Productive Area:** 200 acres. **Development to July 1, 1939:** 56 wells drilled; 45 oil, 1 gas, 10 failures. **Expected Ultimate Recovery:** 1,600,000 bbls. **Produced to July 1, 1939:** 888,258 bbls. **Remaining Reserve:** 711,742 bbls. **Deepest Hole:** Gulf Production Co.'s W. E. Witter 1, abnd 2762 ft. **Development and Producing Methods:** 10-in at 20 to 40 ft, 5 to 7-in producing string atop pay. Some wells drilled with rotary to top of chalk, casing set and remainder of hole drilled dry with cable tools. Acid treatment and nitro shots used in the producing zone. All wells on pump. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Fred J. Adams, Carter, Stewart & Ramos, J. L. Collins & Co., Edwill Oil Co., Geo. C. Fairtrace et al, Lewis-Patton Co., Flora Manning et al, McAlester Fuel Co., Ogden, Ralph, N. P. Powell, Paul C. Rosenquest, G. C. Walker, Jr.

BURDETTE WELLS

2 mi ne Luling field, between the field and Branyon; Guadalupe College Survey. **Means of Discovery:** Trend play and geological information. Area on same fault between Branyon and Luling fields. **Discovery Data:** Lanning & Coffield's Withers 1; Aug. 10, 1937; 25 bbls oil per hour, total depth, 2233 ft; top Edwards 2231 ft; 7-in casing 2228 ft; acidized 350 gallons. **Structure:** Faulted. Production on upthrown side of NE-SW fault. **Elevation:** 440 ft. **Formation, Depth, Gravity:** Edwards, 2230 ft, 28-gr. **Productive Area:** 200 acres, 80 developed. **Development to July 1, 1939:** 14 wells; 11 oil, 3 failures. **Expected Ultimate Recovery:** 800,000 bbls. **Produced to January 1, 1939:** 40,800 bbls; later estimates included in Luling. **Remaining Reserve:** 759,200 bbls. **Deepest Hole:** All wells drilled to top of Edwards limestone. **Development and Producing Methods:** 10-in at 40 ft, 5- to 7-in atop pay. Wells treated with small acid of shots in Edwards limestone. All wells on pump. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Lanning & Coffield, Frank R. Williams.

DALE

Nick Kelly, Squire Damon, W. C. Swearingen, J. Gilbert, George James surveys, se Dale. **Means of Discovery:** Geological information. **Discovery Data:** Texas Co.'s Beatty 1, Aug. 29, 1927, 50 bbls 37.5-gr oil 2324 ft. **Structure:** Some faulting with production backed up against upthrow side. **Elevation:** 520 ft. **Formation, Depth, Gravity:** Locally known as Dale lime, conglomerate of Taylor chalk and serpentine, 2300 ft, 37.5-gr oil 2324 ft. **Productive area:** 250 acres. **Development to July 1, 1939:** 56 wells drilled; 27 oil, no gas, 29 failures. **Expected Ultimate Recovery:** 1,550,000 bbls. **Produced to January 1, 1939:** 1,237,223 bbls. **Remaining Reserve:** 312,767 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Taylor 1, 2765 ft Edwards lime, abnd Oct. 10, 1927. **Development and Producing Methods:** 10-in surface casing at 20 to 40 ft; 6⅝-in atop pay. All wells on pump. This is an old field and wells are being reworked and treated with acid. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Adams & Lyles, H. H. Coffield, Ralph R. Ogden, Sun Oil Co.

DUNLAP

3 mi w Luling, Soloman Seal Survey. **Means of Discovery:** Geological information. **Discovery Data:** M. O. Rayor et al's Dunlap 1-A, July 15, 1931, pumping 30 bbls 38-gr oil, total depth 2525 ft, producing horizon 2299-2304 ft, top Edwards lime 2511 ft, top chalk 2092 ft, 6⅝-in 2127 ft, plugged back and completed in chalk. **Structure:** Crevices and broken formation from basal Taylor to near top of Edwards lime. Mainly on upthrow side of fault. **Elevation:** 400 ft. **Formation, Depth, Gravity:** Taylor marl and Austin chalk 2150-2450 ft, 38-gr. **Productive Area:** 160 acres, 120 acres oil, 40 acres undeveloped. **Development to July 1, 1939:** 45 wells; 24 oil, 21 failures. **Expected Ultimate Recovery:** 444,000 bbls. **Produced to January 1, 1939:** 301,643 bbls. **Remaining Reserve:** 133,357 bbls. **Deepest Hole:** R. Y. Walker's (was Bob Rose) J. M. Pierce 1-B, td 2539 ft, top Edwards lime 2532 ft pb and comp as oil well May 10, 1935. **Development and Producing Methods:** Casing set atop Austin chalk and formation acidized with up to 3000 gallons before completion. All wells on pump. **Outlet:** Texas Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** D. G. Herring, Housel Oil Corp., O. W. Noll and P. E. Week, Trustees. **Remarks:** Broken area along fault system, includes "Sullivan" area across river into Guadalupe County.

* Prospect. ‡ Gas field.

LARREMORE

8 mi sw Lockhart, C. Crenshaw, W. Farrin surveys. **Means of Discovery:** Geological information. **Discovery Data:** Roxana Petroleum Corp.'s Jolly 1, June 27, 1928, 35 bbls 23.5-gr oil and 180 bbls sulphur water, 1351 ft, producing horizon top Edwards lime 1309 ft, elev 570 ft. **Structure:** Producing from upthrow side of NE-SW fault with upthrow side to SE. **Elevation:** 570 ft. **Formation, Depth, Gravity:** Edwards lime, 1300 ft, 23.5-gr; Austin chalk, 1000 ft, 26-gr. **Productive Area:** 50 acres. **Development to July 1, 1939:** 25 wells, 19 oil, 5 failures. **Expected Ultimate Recovery:** 375,000 bbls. **Produced to January 1, 1939:** 283,662 bbls; 7646 bbls recovered first 6 months 1939. **Remaining Reserve:** 91,338 bbls. **Deepest Hole:** Shell Oil Co.'s B. O. Shafer 1, abnd 1857 ft, May 13, 1929. **Development and Producing Methods:** All wells on pump, making large amount of sulphur water. **Outlets:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** C. C. Fuel Oil Co., Louis Crouch, Spokane-Okla. Oil Co. **Remarks:** Oil is being sold for fuel. Shallowest Edwards lime field in Luling district.

LOST MULE*

4 mi nw Lockhart, I. Allen Survey. **Means of Discovery:** Geological data. **Development:** McNeill Petroleum Co.'s F. Marino, Nov. 20, 1937, flowed 5 bbls 18-gr oil per hour, made 62 bbls in 12 hours, then went dead, later abnd. Apparently encountered crevice in Taylor at 1749 ft, total depth, casing being set 1734 ft. Second well on same lease, 300 ft to sw, drilled to 1877 ft in Austin chalk topped 1681 ft, abnd Jan. 7, 1938, after swabbing sulphur water. **Remarks:** This is a crevice area and is not looked upon too favorably for future production.

LULING

5 mi w Luling, James Berry, Nancy Reavill, John Henry, Harriet Cattle and intermediate surveys. **Means of Discovery:** Geological information. **Discovery Data:** United North & South Oil Co.'s Rios 1, Aug. 8, 1922, 150 bbls 28-gr oil per day, 2235 ft, producing horizon 2205-35 ft. Also 1500 bbls sulphur water per day. **Structure:** Producing on the upthrow side of large fault, field 8 mi long and ranges from 300 to 3400 ft in width. **Elevation:** 400-450 ft. **Formation, Depth, Gravity:** Austin chalk, 1900 ft, 34-gr, Edwards lime, 28-gr. **Productive Area:** 2220 acres. **Development to July 1, 1939:** 753 wells, 656 oil, 4 gas, 93 failures. **Expected Ultimate Recovery:** 82,140,000 bbls. **Produced to January 1, 1939:** 70,117,279 bbls. 1,578,190 bbls recovered first 6 months, 1939. (Includes Branyon and Burdette Wells.) **Remaining Reserve:** 12,022,721 bbls, January 1, 1939 **Deepest Hole:** United North & South Development Co.'s Kelly 1, abnd 7859 ft in schist topped at 4700 ft, Aug. 3, 1928. **Development and Producing Methods:** Field developed between 1922 and 1926 with casing program including 20 to 80 ft surface casing, 6⅝-in to top of pay. Field now being redeveloped with same casing program, but only 1 to 2 in of Edwards limestone drilled below casing seat. Acid treatment from 2 to 500 gallons used to clear hole. All wells completed on pump attached to central powers. Wells produced 20 to 95 percent sulphur water. **Outlets:** Magnolia Pipe Line Co. **Rigs Running on July 1, 1939:** 2. **Principal Leaseholders:** F. J. Adams, Baker-Freeman, Blundell Oil Co., L. S. Blunt, S. S. Cargill, Chess Prod. Co., Coffield & Robinson, Colby Oil Co., Compton-Hunt & Hughes, Graham & King Wood Oil Co., Hantho-Nelson, N. W. B. Johnson Drlg. Co., Lane-Cargill, Lincoln Pet. Corp., Lincoln Pet. Co., A. C. Lowe, Magnolia Pet. Co., Pauline Manning, Martell Petroleum Co., Ames & Mee, Charles H. Mee et al, Reed, Millican & Norman, Perot Oil Corp., Potter-Snowden, Rosite Mountain Oil Co., Taylor Refining Co., W. M. Vaughey, C. L. Witherspoon, W. T. & D. Prod. Co., Wyrick & Linkinhoger, R. E. Wisner et al. **Remarks:** First Edwards lime field along Balcones Fault zone. Crevice area opened by F. L. Thomson's M. F. Lawler 1, May 12, 1933, and located just east of Luling field included in this field, as are several other crevices in immediate area.

LULING TOWNSITE

1 mi nw Luling, Solomon Seal Survey. **Means of Discovery:** Geological information. **Discovery Data:** G. A. Donald's F. Tinkle 1, Solomon Seal Survey, 2691 ft; top Austin chalk 2494 ft, Feb 15, 1937, 5 bbls per hour after acidizing, well soon dropped to 10 bbls day on pump. **Structure:** Broken chalk against fault. **Elevation:** 460 ft. **Formation, Depth, Gravity:** Austin chalk 2500 ft, 36.5-gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 5 wells, 2 oil, 3 failures. **Expected Ultimate Recovery:** Included in Salt Flats, this field being on same fault and just sw of that production. **Deepest Hole:** Discovery well. **Development and Producing Methods:** See Salt Flats. **Outlets:** Trucks. **Rigs Running:** None. **Principal Leaseholders:** G. A. McDonald, Pat Armstrong.

LYTTON SPRINGS

E Lytton Springs, Gideon Pace, Pablo Martinez, F. Costello, Burleson surveys. **Means of Discovery:** Geological information. **Discovery Data:** Storey & Lefevre's Brewer 1, March 13, 1925, pumping 75 bbls 37.5-gr oil per day, 1252 ft, serpentine 1220-52 ft. **Structure:** Oval shaped plug dipping in all directions. Igneous rock ranges to 600 ft. **Elevation:** 530 ft. **Formation, Depth, Gravity:** Serpentine, 1250 to 1640 ft, 37.5-gr. **Productive Area:** 1360 acres. **Development to July 1, 1939:** 327 wells, 292 oil, 35 failures. **Expected Ultimate Recovery:** 9,792,000 bbls. **Produced to July 1, 1939:** 8,305,567 bbls. **Remaining Reserve:** 1,486,438 bbls. **Deepest Hole:** Edwards lime, abnd 2292 ft. **Development and Producing Methods:** All wells on pump from central powers. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Brownlee & Pope, Cosmo Petroleum Co., Grayburg Oil Co., Gulf Oil Co., Imperial Petroleum Co., W. Claude Smith, Sun Oil Co., Wellyn Oil Corp., Witherspoon, C. L., Witherspoon Oil Co. **Remarks:** Includes 2 producers completed in townsite, sometimes referred to as Lytton Springs Townsite pool.

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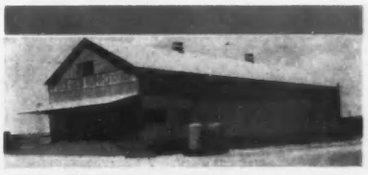

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TULSA, OKLAHOMA

SALT FLATS

1 mi ne Luling, A. Floyd, Gerren Hinds, James Hinds, John Rains surveys. **Means of Discovery:** Geological information. **Discovery Data:** Lutex Oil Co.'s (Sullivan-Bruner et al) Davis 1, May 28, 1938, flowing 268 bbls oil per day from Austin chalk, 2684 ft; later deepened to Edwards lime. **Structure:** Long narrow producing area on upthrow side of fault. Field 7 mi long and 2100 ft wide. **Elevation:** 390 to 460 ft. **Formation, Depth, Gravity:** Austin chalk, 2250-2500 ft, 38.5-gr; Edwards limestone 2700 ft, 36.5-gr. **Productive Area:** 1250 acres. **Development to July 1, 1939:** 459 wells, 420 oil, 2 gas, 37 failures. **Expected Ultimate Recovery:** 48,750,000 bbls. **Produced to July 1, 1939:** 39,106,977 bbls. **Remaining Reserve:** 9,643,003 bbls. **Development and Producing Methods:** All wells on pump making large volumes of water. Majority of tests drill into Georgetown, set casing then drill to top of Edwards limestone. Small acid treatment to clear hole. This lessens volume of water. **Outlets:** Shell Pipe Line Co., Gulf Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Allied Oil Co, S. T. Bertrand, Camp Oil Co., Chiquita Oil Co., H. H. Coffield, Louis Crouch, Danish American Oil Co., Ellmag Corp., Gulf Oil Corp., Harvey-Henderson, Humble Oil & Refining Co., L. C. Jamieson Trs., E. J. Keough et al, Luling Oil & Gas Co., Martell Petroleum Co., North Millican Trs., L. D. Ormsby, Redding & Palaginos, Pitzer & West, Spokane-Okla. Oil & Gas, Stroburg & Wolf, Tex-America Oil Co., The Texas Co., M. K. Townes, Walden Oil Co., Weigand Bros., Witherspoon Oil Co.

WALNUT CREEK

¾ mi s Lytton Springs Townsite, Pablo Martinez Survey. **Means of Discovery:** Magnetometer survey and subsurface correlations. **Discovery Data:** Fred W. Shield's C. H. Walker 1, June 18, 1938, initial production 74 bbls 36.1-gr oil per day; producing horizon 1230-1336 ft; total depth 1336 ft. **Structure:** Oval shaped plug. **Elevation:** 532 ft. **Formation, Depth, Gravity:** Serpentine, 1230 ft, 36.1-gr. **Productive Area:** 50 acres. **Development to January 1, 1939:** 7 wells, 3 oil, 4 failures. **Expected Ultimate Recovery:** 175,000 bbls. **Produced to January 1, 1939:** 6082 bbls. **Remaining Reserve:** 168,918 bbls. **Deepest Hole:** Arts & Cowson's Campbell 2, abnd Nov. 29, 1938, 1900 ft, apparently in Austin chalk. **Development and Producing Methods:** 10-in casing, 22 ft; 7-in casing, 1225 ft; all wells on pump. **Outlets.** Local line. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** C. E. Artz, Jr., Fred W. Shield.

WEST DALE

1 mi nw Dale field and 2 mi s Bastrop line in Squire Damon Survey. **Means of Discovery:** Magnetic survey and geological data. **Discovery Data:** Ralph R. Ogden's C. L. Lackey 2-A, Sept. 26, 1937, 190 bbls 37.5-gr oil per day, total depth 2700 ft, plugged back to 2200 ft, producing horizon serpentine topped 1855 ft, top chalk 2604 ft. **Structure:** Dome, serpentine plug. **Elevation:** 520 ft. **Formation, Depth, Gravity:** Serpentine, 1855-2540; chalk 2540-2604 ft, all one section, 37.5-gr. **Productive Area:** 260 acres, 240 developed. **Development to July 1, 1939:** 28 wells, 14 oil, 14 failures. **Expected Ultimate Recovery:** 1,620,000 bbls. **Produced to January 1, 1939:** 50,416 bbls. **Remaining Reserve:** 1,569,584 bbls. **Deepest Hole:** Ralph R. Ogden's R. B. Vickery 7, abnd Oct. 8, 1938, at 2730 ft in Austin chalk topped 2727 ft. **Development and Producing Methods:** Wells spaced approximately 10 acres with no tests flowing. All wells on pump. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Ralph R. Ogden.

CALHOUN COUNTY

GREENS LAKE*

Centering around Greens Lake, west of town bearing same name. **Means of Discovery:** Reflection seismograph by Humble Oil & Refining Co. **Development:** Undrilled. Several tests drilled off map structure. **Principal Leaseholder:** Humble.

HEYSER

2 mi n Heyser, in Calhoun and Victoria counties, Jose Maria Rios, D. D. Palmer, Agaton Sisneros and J. E. Galban surveys. **Means of Discovery:** Geophysical survey, geological information. **Discovery Data:** Humble Oil & Refining Co. and Plymouth Oil Co.'s P. H. Welder 2, May 28, 1936, 144 bbls 32.8-gr oil per day, 7/64-in choke, 500 lbs tubing pressure, 715 lbs casing pressure, total depth 5474 ft, producing horizon 5467½-72½ ft, gas/oil ratio 250/1. **Structure:** Nosing along general strike line with sand lensing. **Elevation:** 30 to 50 ft. **Formation, Depth, Gravity:** Catahoula, gas, 3420 ft; Heterostegina, 4875 ft, 26 gr; Frio, 5450 ft, 32.8-gr; 5550 ft, 36.4-gr; 5750 ft, 36.5-gr; Intermediate sand lenses in same groups; 6050 ft, 36 gr. **Productive Area:** 3460 acres, 3200 oil, 300 gas, 260 undeveloped. **Development to July 1, 1939:** 247 wells, 221 oil, 12 gas, 14 failures. **Expected Ultimate Recovery:** 73,600,000 bbls. **Produced to January 1, 1939:** 6,499,191 bbls. **Remaining Reserve:** 67,100,809 bbls. **Deepest Hole:** Gulf Oil Corp.'s R. L. Bonner 3, plugged back from 6217 to 5747 ft, comp as gas well through perf 5726-30 ft June 5, 1938. **Development and Producing Methods:** Three strings of casing, several joints conductor pipe, 10-in 1000 ft, producing string through sand and perforated. Majority of wells flowing, although few show some water. High gas/oil ratio. **Outlets:** Humble Pipe Line Co., Republic Pipe Line Co., Barnsdall Pipe Line Co. **Rigs Running, July 1, 1939:** 3. **Principal Leaseholders:** Al Buchanan Prod. Co., Blanco Oil Co., Bransdall Oil Co., Geo. Echols, Gulf Oil Corp., Humble Oil & Refining Co., Magnolia Petroleum Co., Normandie Oil Corp., Portilla Drilling Co., Seaport Oil Corp., Sinclair Prairie Oil Co., Sun Oil Co.

* Prospect. ‡ Gas field.

PLACEDO LAKE*

10 mi nw Port Lavaca, centering around county line near the northwest corner of Valentin Garcia Survey. **Means of Discovery:** Geophysical survey. **Development:** Dyke Oil Co. and Mills Bennett's Adam 1, abnd Sept. 12, 1934, 6528 ft. **Principal Leaseholders:** Stanolind Oil & Gas Co., The Texas Co., Woodmoor Corp., Barnsdall Oil Corp., Houston Oil Co.

PORT LAVACA

2 mi n Port Lavaca, A. Esparaza and M. Sanchez surveys. **Means of Discovery:** Reflection seismograph and torsion balance. **Discovery Data:** Steen Drilling Co.'s F. Stanzel 1, Nov., 1934, 40 bbls 60-gr oil and 5,000,000 cu ft gas per day, total depth 6158. **Structure:** Small fault with some folding. **Elevation:** 20 ft. **Formation, Depth, Gravity:** Marginulina, 6150 ft, 60-gr dist; 6250 ft, 41.2-gr. **Productive Area:** 220 acres. **Development to July 1, 1939:** 22 wells, 11 oil, 2 gas, 9 failures. **Expected Ultimate Recovery:** 440,000 bbls. **Produced to July 1, 1939:** 408,718 bbls. **Remaining Reserve:** 31,282 bbls. **Deepest Hole:** The Texas Co.'s J. A. Martin 1, abnd in Frio, 6512 ft, June, 1935. **Development and Producing Methods:** Wells still flowing and making considerable water. **Outlet:** Wood-Moore Refining Corp. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** C. R. Steinberger.

PRAGUE*

2 mi w of Prague, P. Garcia Grant. **Means of Discovery:** Geophysics, mainly seismograph by Continental Oil Co. **Development:** Continental's Moody 2-A (3) abnd 9083 ft in heaving shale April 10, 1936; two later wells did not progress to this depth. Austin (Vandenberg) 1, 1 mi n of the first three tests abnd 8825 ft. **Principal Leaseholder:** Continental.

ROEMER*

10 mi sw Port Lavaca, J. J. Ogsberry Survey. **Means of Discovery:** Seismograph in 1935 for Benedum-Trees Oil Co. Block reassembled in 1938 and additional geophysical work done. **Development:** Hiawatha Oil & Gas Co.'s Roemer 1, abnd 8378 ft in 1936, after encountering gas sand at 8200-14 ft. Discorbis was topped at 6004 ft, Heterostegina at 6400 ft and Marginulina at 6705 ft. Roemer 2 flowed some high-gravity oil from 7829-52 ft, but could not be completed as commercial producer. **Principal Leaseholder:** Hiawatha Oil & Gas Co.

SEADRIFT*

3 mi s Seadrift, in Eusebio Hidalgo Grant. **Means of Discovery:** Reflection seismograph by Geophysical Service, Inc., 1938. **Development:** Continental Oil Co.'s K. L. Welder 1, abnd in 1939; Coronado Corp. moved 1800 ft northeast and now drilling 10,000 ft test. **Principal Leaseholders:** L. & E. Oil Co., W. P. Luse, Coronado Corp., Continental Oil Co.

CAMERON COUNTY

PORT ISABEL*

3 mi w of Port Isabel, in Heirs of Rafael Garcia "Petroero de Santa Isabel" Grant. **Means of Discovery:** Reflection seismograph by Pure Oil Co., in 1938 and 1939. **Development:** Rio Grande Oil Co.'s Esperson 1, drilled in 1920, abnd 4578 ft. Another test is to be drilled by Pure Oil Co. and Sal Viejo Oil Corp. **Principal Leaseholders:** Sal Viejo Oil Corp. and Pure Oil Co.

SAN BENITO*

N of San Benito townsite, Eugenio and Bartolome Fernandes "Concepcion de Carricitos" Grant. **Means of Discovery:** Reflection seismograph by Shell Oil Co. and Magnolia Petroleum Co. **Development:** Undrilled. **Principal Leaseholders:** Shell and Magnolia.

ST. MARTIN*

13 mi ne Brownsville, St. Martin Grant. **Means of Discovery:** Reflection seismograph by Pure Oil Co. in 1938 and 1939. **Development:** Sal Viejo Oil Corp. and Pure Oil Co. drilled Gatewood Newberry 1 to 7583 ft, abnd when salt water caused near blowout. **Principal Leaseholders:** Sal Viejo and Pure.

COLORADO COUNTY

ALLEYTON*

R. Alley and J. Crosky surveys. **Means of Discovery:** Surface indications checked by seismograph and torsion balance, 1930, by Humble Oil & Refining Co. and Gulf Oil Corp. **Development:** Rich Oil Corp. drilled a 1350-ft test 1 mi e Alleyton and two tests 2½ mi w Alleyton, one of latter to 2825 ft. In Aug., 1930, Gulf-Humble-Penn abnd Hugh Wilson 1, 1½ mi se Alleyton, at 4701 ft, having had gas show around 4200 ft. A few miles north of the above tests, McCulloch Oil Co.'s Kansteiner 1, Leander Beason Survey, quit at 4702 ft, Aug., 1933. E of Rich Oil Corp.'s abnd hole, Mid-Continent Oil Co.'s B. Scherz, J. Cummings Survey, was dry in Cockfield at 4004 ft.

ALTAIR*

South of Altair, in C. Winfree, W. J. Jones, G. Looney, Whiting-Osborne surveys. **Means of Discovery:** Surface evidence. Mariand Oil Co. seismograph used in 1925; Humble Oil & Refining Co. and Gulf Oil Corp. torsion balance later. Also Humble core tested after surface work. **Development:** Pilot Oil Co.'s Tait 1, Cook and Dewees Survey, 1½ mi n Altair, abnd 5025 ft, March, 1933.

Neuhaus et al's M. C. Barnett 1, Obid K. Winn Survey, quit at 5250 ft, Feb., 1933. Previously Humble did extensive core drilling, mostly in south of Altair, but including some tests to the north. **Remarks:** Northwest of Altair, Sun Oil Co. acquired a 5400-acre block southeast of Glidden in Oct., 1932.

EAGLE LAKE*

5 mi n Eagle Lake, centering around the J. Dugat Survey. **Means of Discovery:** Torsion balance, Union Central Oil Co., 1933-34, Humble Oil & Refining Co., 1933. Reflection seismograph, Humble, Union Central Oil Co., 1933. **Development:** Edens Oil Co.'s Wells 1, 3 mi w of Eagle Lake, Whiting and Osborne Survey, quit at 5805 ft, March, 1937. Humble's Relaw Land Co. 1, J. Dugat Survey, abnd 5725 ft, June, 1937, Northeast of this prospect, O. C. Carvey's Ernest 1, M. Lipman Survey, quit at 6509 ft, Dec., 1937. **Principal Leaseholder:** Humble, 15,000 acres; leases run to 1940-42.

GARWOOD

8 mi w Garwood, I&GN Sec. 42, 43, 44, 45, 47, 48. **Means of Discovery:** Surface indications, 1928; torsion balance and magnetometer, Coyle-Concord Oil Co. later. **Discovery Data:** Coyle-Concord's Nelson 1, Section 43, July 17, 1932, 80,000,000 cu ft gas well, spray of high-gravity oil, from sand at 4021-52 ft. Had closed in pressure of 1600 lbs. Later was drilled to the Upper Saline Bayou and abnd at 6194 ft, 1934. Logging device showed a gas sand at 4100 ft, oil sand at 4200 ft. The best sand was 4375-4410 ft. A gas sand was found at 6167 ft. **Structure:** Believed very deep seated salt dome, although no cap rocks or salt has been reached. **Elevation:** 165-180 ft. **Formation, Depth, Gravity:** Frio sand, lower Oligocene, 4020 ft; Cockfield, 6140 ft, 53 gr; distillate, 6030 ft, 55-gr distillate. **Productive Area:** 100 acres, 20 acres oil, 60 acres undeveloped. **Development to July 1, 1939:** 11 wells; 2 oil, 2 gas, 7 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to January 1, 1939:** 3372 bbls. **Remaining Reserve:** 96,628 bbls. **Deepest Hole:** Davis & Co. drilling Sparta-Wilcox test. **Development and Producing Methods:** 10¾-in surface casing around 800 ft; 5½-in casing through sand section, then perforate for completion. **Outlet:** Trucks. **Rigs Running:** 1. **Principal Leaseholders:** Coyle-Concord, Sterling Oil & Refining Co., Humble Oil & Refining Co., Davis & Co.

NORTHEAST ALLEYTON*

Near town of Bernardo, between Alleyton and Cat Springs, centering J. W. Martin, John Hennecke, H. White, Thomas Boatwright surveys. **Means of Discovery:** Surface geology; also checked by geophysical instruments about 1929. **Development:** C. B. Bunte and Shell Oil Co.'s Matuska 1, John Hennecke Survey, abnd in shale at 4710 ft, Oct., 1932. Over half dozen shallow tests have been drilled by Shell, The Texas Co. and Humble Oil & Refining Co. Transtate Oil Co.'s H. Witte 1, 2 mi s of Bernardo, dry at 5010 ft, Nov., 1935.

NORTHEAST WEIMAR*

5 mi ne Weimar, centering in J. Petty, J. Duty, F. Pettus and Henry Austin surveys. **Means of Discovery:** Surface geology; geophysics, 1933. **Development:** Weimar Development Co.'s H. T. Brandt 1, near center Freeman Pettus Survey, quit at 6112 ft, Aug., 1933, in shale; reported slight gas shows below 4000 ft. Colorado Corp.'s F. J. Janecke 1, Henry Austin Survey, quit at 4560 ft, Dec., 1933; gas show 3500 ft. Colorado Corp.'s G. S. Turner 1, across Colorado River, and in Fayette County, in John Petty Survey, quit at 4520 ft, Nov., 1933. **Principal Leaseholders:** Interests which controlled Weimar Development Co. and Colorado Corp. assembled 30,000-acre lease block.

RAVER*

West of Garwood, centering the BBB&C, Section 1. **Means of Discovery:** Torsion balance, The Texas Co., United Gas Co., 1934. Shell Oil Co., 1933. **Development:** Danciger Oil & Refining Co.'s Raver 1, drilled to 6337 ft, showed salt water sands in the Upper Saline Bayou. **Principal Leaseholder:** Danciger Oil & Refining Co. has leases running to 1942.

ROCK ISLAND*

1¼ mi se Rock Island, centering around I&GN Section 33. **Means of Discovery:** Torsion balance, reflection seismograph, Gulf Oil Corp., 1934; topographical high. **Development:** Quintana Oil Co.'s Olmstead 1, dry at 5400 ft, Sept., 1934; Gulf's Milentz 1, quit at 5550 ft in Cockfield, May, 1935. **Principal Leaseholders:** Gulf, Quintana Oil Co.

DEWITT COUNTY

LINDENAU*

Centers around town of Lindenau. **Means of Discovery:** Originally worked by geologists and testing with one well, later by magnetometer, soil analysis, magnetic work by Leavitt Corning, Jr., in 1937 and 1938. Reflection seismograph by Geophysical Service, in 1938. Gravitemeter by The Texas Co. in 1938. **Development:** C. B. Bunte abnd below 3806 ft, 1928. **Principal Leaseholders:** Leavitt Corning, Jr., R. O. Dulane

THOMASTON*

W of Thomaston, at bend of Guadalupe River in the w end of the Charles Lockhart Survey. **Means of Discovery:** Reflection seismograph in 1938 by Atlantic-National Geophysical Co. **Development:** Undrilled. **Principal Leaseholders:** Atlantic Refining Co. has 15,000 acres extending south of Burns Station.

* Prospect. ‡ Gas field.

DIMMITT COUNTY

CARRIZO SPRINGS*

5 mi nw Carrizo Springs, centering around the area between L. I. & M. Co. Survey No. 26, and R. C. Morgandale Survey No. 6. **Means of Discovery:** Surface indications, trend drilling on Chittim anticline. **Development:** Humble Oil & Refining Co.'s City National Bank 1-A, abnd 1927 at 5004 ft. Had sand with shale streaks 2956-84 ft, sandy shale 2985-2999 ft and shale to 3003 ft; set 8-in csg, 2942 ft and bailed few gallons of 35-gr oil. Several other shows in the Navarro. Topped Taylor marl 3700 ft and Austin chalk at 4167 ft. Diamond Half Oil Co. drilled A. Eardley Estate 1 to 4256 ft and Eardley Estate 2 to 825 ft in 1935. Paul C. Teas and Maryland Oil Corp.'s S. E. McKnight 1, Sec. 23, Block 13, I&GN Survey, drilled to 7141 ft in Edwards limestone topped at 7070 ft, finding small oil shows and testing. It was plugged back and made gas well at 2451-56 ft after nitro shot. It went to salt water, due to sidetracked hole; abnd June 6, 1938. **Principal Leaseholders:** Maryland Oil Corp., Paul C. Teas, H. H. Weinert, Tidewater Associated Oil Co., The Texas Co.

DUVAL COUNTY

CASA BLANCA

7 miles nw Freer, 2 miles se Charamousca & SRC pools, GC&SF Survey 291. **Means of Discovery:** Surface and subsurface geology. **Discovery Data:** Magnolia Petroleum Co.'s Duval County Ranch Co. 1, May 31, 1938, 37 bbls 20-gr oil in 12 hours; producing horizon 1180-90 ft, total depth 1190 ft. **Structure:** Sand lensing on minor nosing. **Elevation:** 466 ft. **Formation, Depth, Gravity:** Cole, 1180 ft, 20-gr. **Productive Area:** 520 acres, 340 acres oil, 180 acres undeveloped. **Development to July 1, 1939:** 43 wells; 31 oil, 5 gas, 7 failures. **Expected Ultimate Recovery:** 1,720,000 bbls. **Produced to July 1, 1939:** 166,312 bbls. **Remaining Reserve:** 1,553,688 bbls. **Deepest Hole:** Magnolia's Duval Ranch 3 (292), abnd 2021 ft Nov. 22, 1938. **Development and Producing Methods:** 10-in csg, 165 ft; 7-in csg, 1185 ft; all wells on pump from central power. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Crighton & Moore, Magnolia, Transwestern Oil Co., Shield Oil Co.

CEDRO HILL

10 miles sw Freer, Section 189. **Means of Discovery:** Surface and subsurface geology, plus trend drilling. **Discovery Data:** Magnolia Pet. Co.'s Duval County Ranch Co. 2 (189), Nov. 28, 1938, 50 bbls 20-gr oil per day, pumping; producing horizon 1445-51 ft, total depth 1451 ft. **Structure:** Sand lensing on minor nosing. **Elevation:** 542 ft. **Formation, Depth, Gravity:** Cole, 1445 ft, 20 gr. **Productive Area:** 320 acres, 100 acres oil, 40 acres gas, 180 acres undeveloped. **Development to July 1, 1939:** 11 wells, 9 oil, 2 gas. **Expected Ultimate Recovery:** 1,220,000 bbls. **Produced to July 1, 1939:** 15,277 bbls. **Remaining Reserve:** 1,204,723 bbls. **Deepest Hole:** Magnolia's Duval Ranch 1 (189), 2646 ft, Nov. 1938. **Development and Producing Methods:** 10-in csg, 118 ft; 7-in csg 1445 ft. Majority of wells jetting, using flow collars. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Magnolia, The Texas Co., Humble Oil & Refining Co.

CHARAMOUSCA

1 mile sw S. R. C. field, Section 151. **Means of Discovery:** Trend drilling. **Discovery Data:** Sun Oil Co. and Simms Oil Co.'s Worden & Drought 2, Sept. 20, 1935, flowing 46½ bbls, ½-in choke, 75 lbs tubing, 160 lbs casing pressures, 1581 ft; producing horizon 1570-81 ft. **Structure:** Sand lensing and faulting. **Elevation:** 400 ft. **Formation, Depth, Gravity:** McElroy zone of Jackson age; 1500-1600 ft, 21-gr. **Productive Area:** 360 acres, 100 acres oil, 160 acres gas, 100 acres undeveloped. **Development to July 1, 1939:** 42 wells; 31 oil, 11 failures. **Expected Ultimate Recovery:** 800,000 bbls. **Produced to July 1, 1939:** 254,190 bbls. **Remaining Reserve:** 545,810 bbls. **Deepest Hole:** Magnolia's Duval-Worden 1, abnd 3892 ft Jan. 6, 1936. **Development and Producing Methods:** 10-in 40 ft, producing string atop sand; most of wells are being jetted. **Outlet:** Magnolia Pipe Line Co. **Rigs Runnings July 1, 1939:** None. **Principal Leaseholders:** N. V. Duncan, Magnolia, Sun, Transwestern Oil Co. **Remarks:** N. V. Duncan's Worden & Drought 3 found sand 1531-37 ft, elev 402 ft, about 40 ft removed in the section from the discovery sand (which provided only one oil well) and completed test Feb. 14, 1937, for 90 bbls of oil with large volume of gas. Present development in that sand.

CHILTIPIN‡

10 miles north of San Diego, Cuadrillo Irrigation Survey 572. **Means of Discovery:** Geological and geophysical work. **Discovery Data:** William M. Nichols' H. T. Graham 1, June 30, 1939, estimated 10 million cu ft gas and spray 44.8-gr oil per day, ½-in ch; 1440 lbs tubing, 1660 lbs casing pressures; producing horizon 4760-95 ft, total depth 4838 ft, perforated 4784-90 ft with 24 shots. **Structure:** Faulted. **Elevation:** 393 ft. **Formation, Depth, Gravity:** Pettus, 4760 ft, 44.8-gr. **Productive Area:** 20 acres. **Development to Jan. 1, 1939:** New field. **Expected Ultimate Recovery:** No estimate as yet. **Development and Producing Methods:** 10¾-in csg, 343 ft; 7-in csg, 4836 ft; 1200 lbs at 4782 ft, shut in pressure. **Outlet:** None. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** William Nichols, The Texas Co., Magnolia Pet. Co., Humble Oil & Refining Co., Sun Oil Co., Arkansas Fuel Oil Co., Joe W. Cosner, Continental Oil Co.

YOUR

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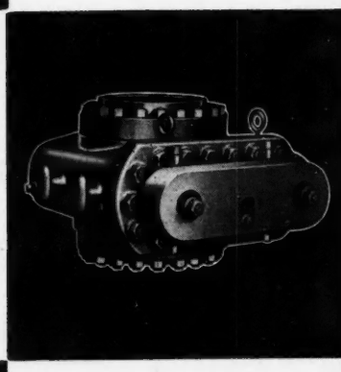
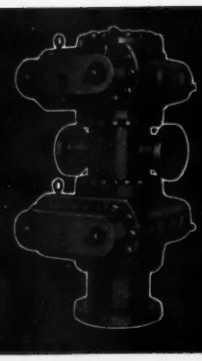
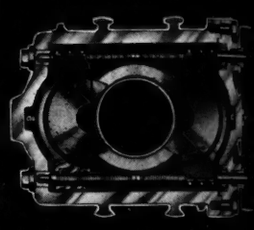


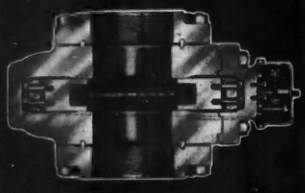
The new Shaffer Type Cellar Control Gates body vital improvements to insure maximum safety while drilling, and positive protection against blow outs; to hold extremely high pressures indefinitely with the drill pipe either in or out of the well; and to kill wells under pressure.

Here is "Pressure Control" at its best. Rams in the upper Shaffer Cellar Control Gate close around the pipe; rams in the lower Gate insure a complete shut off when the pipe is out of the hole. Steel rams faced with oil-resisting rubber close simultaneously to provide a leak-proof seal against highest pressures.

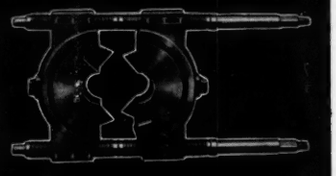


Operating screws 2½" in diameter and turned from a solid bar of non-corrosive stainless steel are securely bolted to the ram operating assembly of Shaffer Type 38 Cellar Control Gates. Rigidity and perfect alignment are always assured, so that the rams close smoothly and uniformly in time of danger.





This view pictures the sprocket and chain guarded against damage; A.P.I. Ring Joint Flanges, and heavier metal sections which enable Shaffer Type 38 Cellar Control Gates to withstand pressures of 6,000 lbs. per square inch. Despite heavier construction, vertical dimensions are held to a minimum; for example, 13⅜" size is only 25"-in height.



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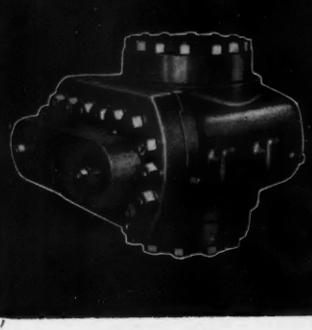
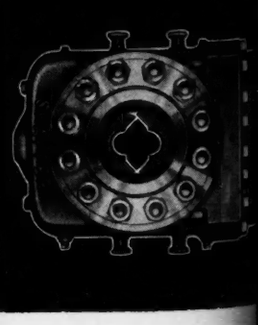


This illustration shows how Shaffer Self Centering Rams guide small diameter drill pipe to a centralized position, even in large bore Shaffer Cellar Control Gates. When the rams are retracted, the large, unobstructed opening permits drilling operations to be carried on with no interference.



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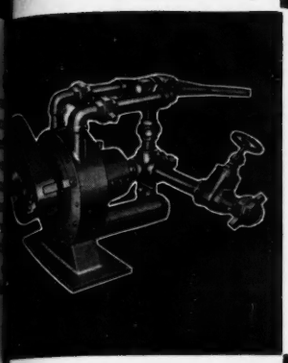
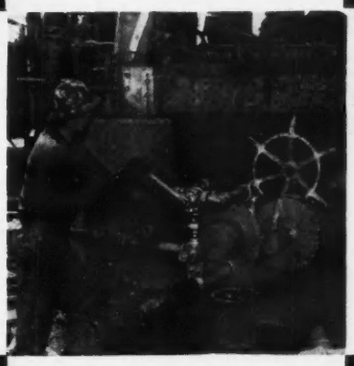
M O V E

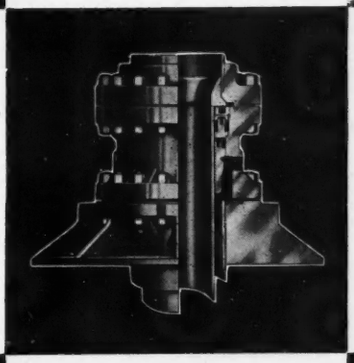


Now the driller can close, or open, Shaffer Cellar Control Gates without leaving the brake lever. With a Shaffer Gate Closing Steam Engine it is necessary only to open a valve in the steam line to spin the Gate closed almost instantly. You can install this efficient device on *any* Shaffer Cellar Control Gate.

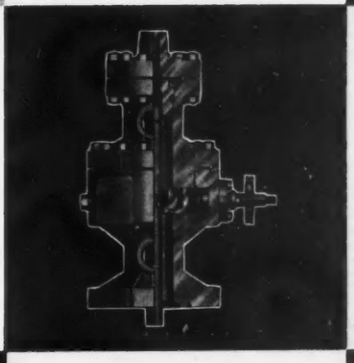


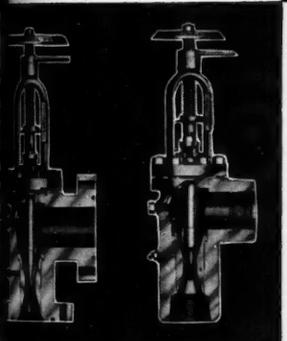
The man at left is demonstrating how a 13⅜" Shaffer Cellar Control Gate can be closed in 8 seconds with a Shaffer Gate Closing Steam Engine. DRILLERS NOTE: It's mighty easy to test the closing and opening of all Gates when you can stand at the brake lever and merely open a valve in the steam line.

You can readily drill through the "Full Opening" Shaffer Spool Type Landing Head and when your casing program is determined in advance, and a stack of two or more Heads installed, the drilling connections (including Gates) need never be changed in size or length.

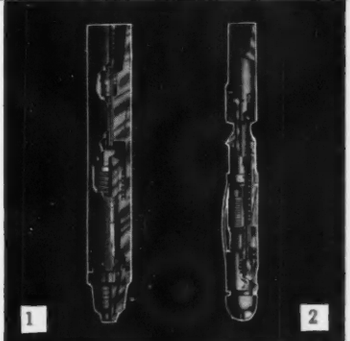


There is no need to take chances with blow-outs while drilling in and tubing a well. The simple, compact Shaffer Universal Tubing Control Head provides complete protection. When installed on a producing well, the rams can be closed around the tubing to shut in casing pressure below the tubing head and lead lines.



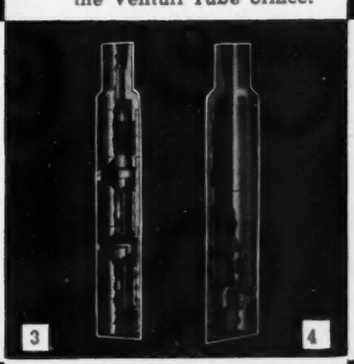


The flow of fluid through a line can be controlled and both pressure and rate of flow regulated with extreme accuracy by using Shaffer Adjustable Flow Beans. A.P.I. Ring Joint Flanges eliminate the dangers of poorly cut pipe threads. A gauge indicates the exact opening, as the hand-wheel is used to move the tip in or out of the Venturi Tube orifice.

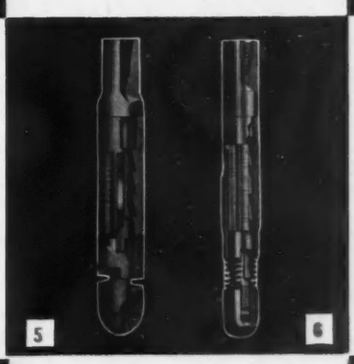


When drill pipe is 'stuck' with the tool joint box or coupling up, and it is impossible to go over it, a Shaffer Expanding Pin Tap (1) has no equal for backing-off the fish. Shaffer Inside Casing Cutters (2) are in worldwide service for cutting off casing, tubing or liners, and are not equalled for speed or efficiency.

Drill pipe twisted off? Use a Shaffer Double Bowl Releasing Socket (3) with upper slips to catch the pipe, and lower slips to catch the tool joint.—The Shaffer "Peerless" Left Hand Rotary Releasing Socket (4) does not depend on upstrain; increases its grip by left-hand rotation; safely recovers loose fish as well as stuck fish.



Years of service have proved the dependability of Shaffer Rotary Releasing Spears. The Shaffer-Hamon Spear (5) is preferable for use with right hand tools — the Shaffer T. & T. Spear (6) is preferable when left hand tools are used. Unequalled for removing pipe, setting liners, holding or jarring jobs. The most readily releasing spears on the market.



E F E R !

HIGH PRESSURE DRILLING AND CONTROL EQUIPMENT

FISHING TOOLS THAT EXCEL . . . Described in the 1939 Composite Catalog

COLMENA

6 miles sw Freer, Sections 192, 191, 49, 583, 51, 487, 585. **Means of Discovery:** Geology. **Discovery Data:** Mills Bennett Oil Corp.'s Duval County Ranch Co. 1, Dec. 15, 1934, 15,000,000 cu ft gas, 525 lbs rock pressure, total depth 3006 ft, producing horizon 1486-1505 ft, plugged to 1280 ft and re-drilled to 1505 ft, casing 1471 ft. **Structure:** Sand lensing against faulting. **Elevation:** 630 ft. **Formation, Depth, Gravity:** Whitsett section of Jackson age, probably Cole sand, 1500 ft, 20 gravity. **Productive Area:** 620 acres, 320 acres oil, 300 acres gas. **Development to July 1, 1939:** 51 wells; 25 oil, 11 gas, 15 failures. **Expected Ultimate Recovery:** 2,000,000 bbls. **Produced to July 1, 1939:** 286,549 bbls. **Remaining Reserve:** 1,713,541 bbls. **Deepest Hole:** Mills Bennett Oil Corp.'s Duval County Ranch Co. 2, abnd 3396 ft May 22, 1935. **Development and Producing Methods:** 10-in 40 ft; producing string atop sand; most of wells pumping, several on jet, making considerable water. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** A. & M. Well Service, Inc., Humble Oil & Refining Co., Colmena Oil Co., Rutherford & Hooper, Wellington Oil Co.

DRISCOLL

6 miles n Realitos, Sections 448 and 23, of Santa Rosalia Grant. **Means of Discovery:** Gas in water wells, geological and geophysical information. **Discovery Data:** Robert Driscoll's Fee 3, completed 1924, 3,000,000 ft gas, total depth 528 ft, sand 523-28 ft, elev 346 ft. **Structure:** Local high with sand lensing to se. Formations thicken materially to se from western Duval County shore line, accounting for wide interval between established sand zones. **Elevation:** 580-600 ft. **Formation, Depth, Gravity:** Oakville-Catahoula, 500 ft, gas; upper Jackson (similar to Cole) 22.5 gravity; Hockleyensis (locally called Driscoll) 2900 ft, 22.5 gravity; Government Wells, 3250-3400 ft, 33 gravity. **Productive Area:** 1800 acres, 1100 acres oil, 600 acres gas, 700 acres undeveloped. **Development to July 1, 1939:** 51 wells; 36 oil, 9 gas, 6 failures. **Expected Ultimate Recovery:** 9,265,000 bbls. **Produced to Jan. 1, 1939:** 1,769,691 bbls. **Remaining Reserve:** 7,855,309 bbls. **Deepest Hole:** Continental Oil Co.'s R. Driscoll Estate 2-a, 4695 ft, plugged back to sand 3449-59 ft, completed 200 bbls fluid per day, 30 percent oil, August 24, 1934. **Development and Producing Methods:** 500 ft 10-inch; first wells set casing atop sand; later set through sand and perforated. All wells flowing, although many are making salt water. **Outlets:** Humble Pipe Line Co., Continental Oil Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholder:** Continental. **Remarks:** Controlled by Continental, which is carrying on an exploratory campaign. Government Wells zone in this pool has been divided into three groups, first having 3 lenses, second 2 lenses, and third 3 lenses.

EAGLE HILL

Sections 267, 269, 270 and 206, Eagle Hill. **Means of Discovery:** Trend drilling and geological information. **Discovery Data:** Al Buchanan Duval Ranch Co. 1, Oct. 15, 1933, 500 bbls, 22-gr oil, producing horizon 1457-77 ft. **Structure:** Sand lensing, with probable fault on west side of field. **Elevation:** 550 ft. **Formation, Depth, Gravity:** Upper Jackson, first sand locally known as Cole, 1475 ft, 22 gravity; Government Wells horizon, 2150 ft, 23 gravity. **Productive Area:** 1000 acres, 640 oil, 200 acres gas, 360 acres undeveloped. **Development to July 1, 1939:** 93 wells; 68 oil, 5 gas, 20 failures. **Expected Ultimate Recovery:** 5,760,000 bbls. **Produced to July 1, 1939:** 883,823 bbls. **Remaining Reserve:** 4,876,177 bbls. **Deepest Hole:** O. W. Killam's J. F. Welder Heirs 1, Section 102, abnd 2524 ft. **Development and Producing Methods:** 120 ft 10-in surface casing. Oil string atop sand; most wells are producing via jet, although some flowing naturally; some on pump. **Outlets:** Magnolia Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Buchanan Prod. Co., J. R. Foster, W. E. Butler, Magnolia Pet. Co., Humble Oil & Refining Co., V. G. Schimmel et al, The Texas Co. **Remarks:** 2 miles north of this field Buchanan & Tyrell's E. R. Hagist 1, completed Aug. 13, 1932, initial production 6,000,000 cu ft gas, spraying little 22-gr oil per day, depth 2144 ft, sand 2110-22 ft, shale 2122-34 ft, sand 2134-44 ft, later drilled deeper to 2505 ft and abnd. This field also includes area on northeast side of production referred frequently as the Hagist pool.

EL MESQUITE

4 mi from sw c of county, El Mesquite Trinidad Vela Grant, Share 4. **Means of Discovery:** Geological data based on shows in three failures in immediate vicinity. **Discovery Data:** Rogers & Rogers' Rita S. de Pena 1, July 16, 1935, heading 15 bbls 43-gr oil per day, 2862 ft, producing horizon 2850-62 ft, elev 670 ft derrick floor, 7-in casing set 2845 ft. **Structure:** Sand lensing. **Elevation:** 670 ft. **Formation, Depth, Gravity:** Cockfield, 2860 ft, 43 gravity. **Productive Area:** 10 acres. **Development to July 1, 1939:** 7 wells; 1 oil, 6 failures. **Expected Ultimate Recovery:** 976 bbls. **Produced to Jan. 1, 1939:** 976 bbls. **Deepest Hole:** Rogers & Rogers' J. Valdez 1, abnd 3502 ft, Sept. 27, 1936.

FITZSIMMONS

10 miles nw San Diego, J. Poitevent Survey. **Means of Discovery:** Geological information. **Discovery Data:** H. J. Porter et al's D. Fitzsimmons 1, May 26, 1938, 108 bbls 47.1-gr oil per day, 9/64-in choke; 370 lbs tubing, 1020 lbs casing pressure; producing horizon 4270-4303 ft, total depth 4303 ft. **Structure:** Monocline with a steep dip to the southeast. **Elevation:** 460 ft. **Formation, Depth, Gravity:** Pettus, 4270 ft, 47.1 gr; Hockleyensis, 3600 ft, 40 gr. **Productive Area:** 1150 acres, 800 acres oil, 350 acres undeveloped. **Development to July 1, 1939:** 65 wells; 60 oil, 5 failures. **Expected Ultimate Recovery:** 7,360,000 bbls. **Produced to Jan. 1, 1939:** 669,688 bbls. **Remaining Reserve:** 6,690,312 bbls. **Deepest Hole:** Grimm et al's Mew 1, abnd 5006 ft. **Development and Producing Methods:** 10-in casing, 200 ft; 7-in csg, 4292 ft; practically all wells flowing naturally. **Outlets:** San Diego Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Amerada Pet. Corp., Blecher Prod. Co., Collins & Porter, Tom Graham, Houston Oil Co., McAlester Fuel Co., Navarro Oil Co., H. J. Porter, Porter & Rycade, Sun Oil Co.

GOVERNMENT WELLS

Including Sections 363, 362, 360, 359, 361, 250, East 60, West 60, 2, 41, 43, 44, 45, 46, 42, 101, 208, 209, 73, 38, 61, 62, 59, 78, 249, 134, 136. **Means of Discovery:** Geology. **Discovery Data:** Onyx Oil Co.'s N. G. Norton 1, Aug. 22, 1928, 150 bbls 22.5-gr oil; 6⅝-in choke; 2347 ft, producing horizon 2339-47 ft; elev 609 ft. **Structure:** Sand lensing along apparent shore line, faulting at south end of field. **Elevation:** 600 ft. **Formation, Depth, Gravity:** Cole sand, Jackson age, 1550 ft, gas; Gov't Wells, 2200-2350 ft, 23 gravity; Loma Novia, 2400 ft, 26 gravity. **Productive Area:** 7590 acres. **Development to Jan. 1, 1939:** 904 wells, 781 oil, 47 gas, 76 failures. **Expected Ultimate Recovery:** 85,008,000 bbls. **Produced to Jan. 1, 1939:** 39,809,667 bbls. **Remaining Reserve:** 45,-998,333 bbls. **Deepest Hole:** Magnolia Pet. Co.'s L. Lundell 1, abnd 5858 ft. **Development and Producing Methods:** Practically all wells on pump and showing from 10 to 90 percent salt water. Several wells flowing through flow valves. No new wells drilled in several years. **Outlets:** Crude Oil Pipe Line Co., Texas Pipe Line Co., Magnolia Pipe Line Co., Humble Pipe Line Co., and several individual buyers. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Al Buchanan Prod. Co., R. B. Byrd Oil Corp., Central Producers, Inc., Coffield & Lanning, Tom Graham, Hamill & Hamill, Highland Oil Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Navarro Oil Co., Pan American Prod. Co., G. B. Parr, Parr Oil Corp., C. G. Porter, Reynosa Oil Co., San Diego Oil Corp., Soto Oil Corp., Southwest Prod. Co., Sun Oil Co., The Texas Co., Bridwell Oil Co., R. L. Blankenship, Cox & Hamon, Duval Oil Corp., L. H. Flewellen, Gilcrease Oil Co., Gov't Wells Oil Co., R. H. Hudgens, Reed & McKay, Tri-Ess Corp. **Remarks:** Includes North, South and original Government Wells fields.

GRAY RANCH*

5 miles se Seven Sisters, centering around Section 7. **Means of Discovery:** Geological information. **Development to July 1, 1939:** Southern Crude Oil Purchasing Co.'s La Gloria 1, (Gray Ranch), drilled in the northeast corner of Section 7, completed as gas well at 639 ft; four other tests drilled in the immediate vicinity failed to develop production. **Principal Leaseholder:** Stanolind Oil & Gas Co.

HOFFMAN

Sections 122, 119, 120, 125, 118, 117, and 114, 7 mi s Freer. **Means of Discovery:** Geological information, deeper sands, mainly trend drilling. **Discovery Data:** Conway & Campbell's W. K. Hoffman 1, Sept. 10, 1933, 50,000,000 cu ft dry gas, total depth 2757 ft, producing horizon 2749-57 ft, elev 725 ft. **Structure:** Sand lensing, dipping se. **Elevation:** 700-750 ft. **Formation, Depth, Gravity:** Government Wells, Jackson age 2750 ft; 23-gr; Loma Novia, 2875 ft, 26 gr. Upper Hockleyensis sand (locally Argo sand) 2650 ft, 27.1 gravity. **Productive Area:** 4200 acres proved, 2860 acres oil, 2000 acres gas, 800 acres undeveloped. **Development to July 1, 1939:** 327 wells, 258 oil, 15 gas, 54 failures. **Expected Ultimate Recovery:** 21,736,000 bbls. **Produced to July 1, 1939:** 2,769,623 bbls. **Remaining Reserve:** 18,938,377 bbls. **Deepest Hole:** Rogers & Rogers' Sophie Hoffman 2, drilled to 3605 ft, plugged back to 2816 ft, perforated casing 2738-50 ft, completed as gasser through perforations 2738-50 ft, 475 pounds closed in pressure, April 7, 1936. **Development and Producing Methods:** All wells either on pump or jetting. 10-in surface casing at 80 ft, producing string to top of sand. **Outlets:** Crude Oil Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Argo Oil Corp., Bridwell Oil Co., Continental Oil Co., Cox & Hamon, Cuellar Bros. Oil Co., Inc., Darby Pet. Corp., Duval Oil Corp., Gulf Stream, Inc., Magnolia Pet. Co., Reliance Oil & Royalty, Ruiz Co., Rowan & Hope, Inc. et al, Standard Oil Co. of Kansas, W. A. Wagner.

IGNACIO

6 miles ne Freer, Section 211. **Means of Discovery:** Trend play, geological data. **Discovery Data:** DeSoto Oil Co., Coronado Oil Co.'s Welder & Wood 1, June 20, 1922, 24,000,000 cu ft gas, total depth 2500 ft, plugged back 2158 ft, top sand 2118 ft. **Structure:** Small sand lens. **Elevation:** 710 ft. **Formation, Depth, Gravity:** Upper Government Wells sand, Jackson age, 2100 ft, 22 gravity. **Productive Area:** 40 acres, 20 gas, 20 oil. **Development to July 1, 1939:** 4 wells, 1 oil, 1 gas, 2 failures. **Expected Ultimate Recovery:** Included in Seven Sisters. **Deepest Hole:** The Texas Co.'s P. de la Rodriquez, 3101 ft, abnd Jan. 30, 1934.

KOHLER

Sections 162, 399, 163, 165, 164, 166, 395, 396, 423, 424, 17, 172, 169, 144, 453, 343, 62 and 5, 8 mi n Bruni. **Means of Discovery:** Geology, trend drilling. **Discovery Data:** Simms Oil Co.'s J. T. Dinn 1, June 14, 1926, 30,000,000 cu ft gas, 1760 ft, top sand 1748 ft, elev 780 ft. **Structure:** Sand lensing situation similar to other fields along Mirando trend. **Elevation:** 800 ft. **Formation, Depth, Gravity:** Jackson series, Cole, 1800 ft, 21.5-gr; Government Wells 2450 ft, 22.6 gr; Mirando sand, 2800 ft, 21.6 gr. **Productive Area:** 720 acres; 240 oil, 480 gas. **Development to July 1, 1939:** 138 wells; 34 oil, 57 gas, 47 failures. **Expected Ultimate Recovery:** 768,000 bbls. **Produced to July 1, 1939:** 595,095 bbls. **Remaining Reserve:** 172,905 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s V. Kohler 50, Section 164, abnd 7723 ft, Aug. 31, 1931; elev 820 ft, sands 1859-87 ft showing oil, salt water and gas, other sand just below 6000 ft; set 9⅝-in casing 6021 ft. **Development and Producing Methods:** 60-ft 10-in surface casing, producing string to top of sand. Most wells flowing. **Outlets:** United Gas System, Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Cox & Hamon, Humble Oil & Refining Co. **Remarks:** This report covers area to north commonly referred to as North Kohler field.

* Prospect. ‡ Gas field.

LABBE

1½ miles from Seven Sisters, Sections 2, 221, 416, 1 and 516. **Means of Discovery:** Geology and geophysics. **Discovery Data:** Magnolia Petroleum Co.'s Emil Labbe 1, Nov. 25, 1934, 20,000,000 cu ft gas, 890 lbs rock pressure, total depth 2460 ft, producing horizon 2453-60 ft, 7-in casing 2453 ft. **Structure:** Sand lensing. **Elevation:** 460 ft. **Formation, Depth, Gravity:** Hockleyensis of Jackson age, 2400 ft, gas; Loma Novia, 2900 ft, 27-gr. **Productive Area:** 640 acres, 210 oil, 430 gas. **Development to July 1, 1939:** 41 wells, 17 oil, 11 gas, 13 failures. **Expected Ultimate Recovery:** 1,155,000 bbls. **Produced to July 1, 1939:** 209,996 bbls. **Remaining Reserve:** 945,044 bbls. **Deepest Hole:** Stanolind Oil & Gas Co.'s Ira G. Yates 4, 4054 ft, plugged back and set casing 2473 ft, perforated in sand 2446-51 ft, June 5, 1936. **Development and Producing Methods:** 10-in 60 ft, producing string atop of sand, most of wells on pump. **Outlets:** United Gas System, Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble, Magnolia, Sun Oil Co.

LOMA VISTA

5½ miles ne Freer, Section 103. **Means of Discovery:** Drilled on trend with 2 dry holes which showed saturation. **Discovery Data:** Wellington Oil Co.'s (was Santa Clara), J. F. Welder 1-A, Feb. 9, 1936, 127 bbls 25-gr oil, producing horizon 2914-21½ ft, 7-in casing 2911 ft. **Structure:** Sand lensing holes with saturation. **Elevation:** 685 ft. **Formation, Depth, Gravity:** Loma Novia sand, Jackson age, 2900 ft, 26 gr. **Productive Area:** 20 acres, 10 oil, 10 gas. **Development to July 1, 1939:** 10 wells; 1 oil, 1 gas, 8 failures. **Expected Ultimate Recovery:** 25,000 bbls. **Produced to July 1, 1939:** 14,875 bbls. **Remaining Reserve:** 10,125 bbls. **Deepest Hole:** Shell Oil Co.'s J. F. Welder 1-B, abnd 3242 ft, August, 1936. **Development and Producing Methods:** 10-in 80 ft, producing string atop sand. **Outlet:** Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Wellington Oil Co.

LOMA NOVIA

Sections 73, 72, 41, 554, 101, 64, 62, 553, 62, 67, 70, 68, 114, 62, 78, 77, 84, 83, 72, 76, 60, 49, 74, 71, and 73, ½ mi e Freer. **Means of Discovery:** Flank Drilling on known structure. **Discovery Data:** Humble Oil & Refining Co.'s D. Ruiz Estate 1, Dec. 27, 1934, 50 bbls 25-gr oil and 150 bbls salt water 2785-90 ft. **Structure:** Local sand lenses on e flank of Government Wells structure. **Elevation:** 630 to 720 ft. **Formation, Depth, Gravity:** Loma Novia sand in Jackson formation 50 to 150 ft below regular Government Wells sand; 2750 ft, 26 gr; Mirando, 2850 ft, 22 gr. **Productive Area:** 7310 acres. **Development to July 1, 1939:** 800 wells; 737 oil, 15 gas, 48 failures. **Expected Ultimate Recovery:** 66,521,000 bbls. **Produced to July 1, 1939:** 18,591,445 bbls. **Remaining Reserve:** 47,929,555 bbls. **Deepest Hole:** Lonnie Glasscock's Milano Land & Gardens Co. 1, abnd May 21, 1936, 3450 ft. **Development and Producing Methods:** 10-in 100 ft, 7-in producing string atop sand. Most of wells producing via pump; few wells jetting. Majority making some water. **Outlets:** Crude Oil Pipe Line Co., Magnolia Pipe Line Co., Humble Pipe Line Co., Texas Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Blanco Oil Co., Al Buchanan Prod. Co., Bridwell Oil Co., Rodney De Lange, Duval Oil Corp., Frank J. Gravis, Gravis Oil Co., Gilcrease Oil Co., Hamill & Smith, Highland Oil Co., Humble, Kaffie Lumber Co., Magnolia Petroleum Co., Maybelle Oil Co., Montour Production Co., Ralph R. Ogden, Parr Oil Corp., Pitkin Goldston Oil Co., Reynosa Oil Co., Rosan Oil Co., Salt Dome Oil Corp., Southwood Oil Co., Shell Oil Co., Southwest Prod. Co., Sun Oil Co., The Texas Oil Co., Valley Osage Oil Co. **Remarks.** Several sand lenses at varying depths are found in this field. Some wells are productive in more than one lens.

LONGHORN

1¾ miles sw Sweden field production, Santos Flores gr. **Means of Discovery:** Subsurface geological work. Reflection seismograph by McCollum Exploration Co. **Discovery Data:** Longhorn Drilling Co.'s M. M. Miller 1, Dec. 8, 1938, 203 bbls 43.6-gr oil per day, 5/32-in ch; 780 lbs tubing, 1000 lbs casing pressures, producing horizon 4893-99 ft, total depth 4899 ft. **Structure:** Sand lensing. **Elevation:** 374 ft. **Formation, Depth, Gravity:** Gravis, 4890 ft, 43.6 gr. **Productive Area:** 1400 acres, 620 oil, 780 undeveloped. **Development to July 1, 1939:** 19 wells, 18 oil, 1 failure. **Expected Ultimate Recovery:** 7,440,000 bbls. **Produced to July 1, 1939:** 136,693 bbls. **Remaining Reserve:** 7,303,307 bbls. **Deepest Hole:** Miller & Sons' Miller 9, drilled to 5676 ft, plugged back and completed through perforations 4060-64 ft, flowed 173 bbls per day 5/32-in choke June 16, 1929. **Development and Producing Methods:** 10¾-in csg 384 ft, 7-in csg 4892 ft. **Outlet:** Duval Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Henderson Coquat, Hiawatha Oil & Gas Co., M. M. Miller & Sons, Longhorn Drilling Co.

LOS PICACHOS

8 miles ne Freer, Blk. 11, Putnam subd. Survey 265. **Means of Discovery:** Subsurface geology. **Discovery Data:** V. G. Schimmel et al's E. R. Hagist 5, April 13, 1938, 28 bbls 23-gr oil per day, pumping; producing horizon 2166-93 ft, total depth 2196 ft. **Structure:** Upthrown block against two faults. **Elevation:** 471 ft. **Formation, Depth, Gravity:** Government Wells, 2165 ft, 23 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 4 wells, 1 oil, 3 failures. **Expected Ultimate Recovery:** Included in Seven Sisters. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10-in csg 62 ft, 7-in csg 2176 ft. Discovery on pump. **Outlet:** Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** V. G. Schimmel, Dovre & Brown, Humble Oil & Refining Co., J. L. Collins & Co., Harvey & Henderson, W. C. McBride, Inc.

LUNDELL

Section 140, about 6 miles sw Freer. **Means of Discovery:** Geology. **Discovery Data:** Government Wells Oil Co.'s H. A. Lundell, June 15, 1937, 11,000,000 cu ft gas, spray oil through ¾-in choke, 640 lbs working pressure, sand 1515-20 ft, 7-in casing 1513 ft. **Structure:** Sand lensing, some faulting suggested. **Elevation:** 570 ft. **Formation, Depth, Gravity:** Cole sand of upper Jackson, 1550 ft, 21 gr. **Productive Area:** 640 acres, 480 oil, 160 gas. **Development to July 1, 1939:** 53 wells, 50 oil, 1 gas, 2 failures. **Expected Ultimate Recovery:** 2,280,000 bbls. **Produced to July 1, 1939:** 283,232 bbls. **Remaining Reserve:** 1,996,768 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Duval Ranch 2, Section 58, abnd 2698 ft, July 22, 1937. **Development and Producing Methods:** 10-in 100 ft, producing string atop sand. Some wells jetting, but most are on pump. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Government Wells Oil Co., Humble Oil & Refining Co., Magnolia Petroleum Co., M. L. Massingill.

MAGNOLIA-HAHL*

3 miles nw of Freer, south central portion Section 51. **Means of Discovery:** Geology. **Development:** Magnolia Petroleum Co.'s C. W. Hahl 1, completed at 4094 ft in sand as gasser spraying little oil. Hahl 2 was abandoned at 5362 ft. Several other wells have been drilled in general vicinity, but nothing developed. **Principal Leaseholder:** Magnolia.

MURALLA

Eight miles w San Diego and 2½ mi sw Thomas Lockhart pool, T. C. Rogers Survey 298. **Means of Discovery:** Trend drilling and geological data. **Discovery Data:** John B. Blanchard's Atlee Parr 1, May 22, 1939, 33 bbls 42.6-gr oil per day, 1050 lbs tubing, 1500 lbs casing pressure, producing horizon 4710-15 ft, total depth 4715 ft. **Structure:** Sand lensing. **Elevation:** 490 ft. **Formation, Depth, Gravity:** Pettus, 4710 ft, 42.6 gr. **Productive Area:** 160 acres, 20 oil, 140 undeveloped. **Development to July 1, 1939:** New field. **Expected Ultimate Recovery:** 60,000 bbls. **Deepest Hole:** J. W. Cosner's Cantu 1, abnd 5807 ft, Feb. 14, 1939. **Development and Producing Methods:** 10-in csg 230 ft, 5½-in csg 4710 ft. One well showing high gas/oil ratio; second in process of completion on July 1, 1939. **Outlets:** None. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Sun Oil Co., Goldston & Russ et al, Atlantic Refining Co., Humble Oil & Refining Co., J. B. Blanchard et al, J. W. Cosner et al, Arkansas Fuel Oil Co.

NORTH SWEDEN

1 mile south Benavides, includes Sections 8, 9, 10, 11, 18, and 19 Sweden Subdivision Santo Flores Grant and nw portion San Andres Grant. **Means of Discovery:** Geology and geophysics. **Discovery Data:** Gravis & Doran's F. Vaello Puig 1, April 18, 1937, 220 bbls 43-gr oil through 5/32-in choke, tubing pressure 750 lbs, casing pressure 850 lbs, sand 4730-55 ft. **Structure:** Nosing and sand lens, likely some faulting. **Elevation:** 350 to 450 ft. **Formation, Depth, Gravity:** Hockleyensis of Jackson age (corresponds to upper Government Wells sand) 4730 ft, 43 gr; Lower Government Wells (50 ft deeper) 4800 ft, 43.6 gr; Pettus, 5350 ft, 44.8 gr; Hockleyensis, 4500 ft, 42 gr; Cole, several sands, 3800-4000 ft, distillate and gas. **Productive Area:** 4660 acres, 3420 oil, 600 gas, 1240 undeveloped. **Development to July 1, 1939:** 251 wells, 229 oil, 12 gas, 10 failures. **Expected Ultimate Recovery:** 58,140,000 bbls. **Produced to Jan. 1, 1939:** 6,163,099 bbls. **Remaining Reserve:** 51,976,901 bbls. **Deepest Hole:** Navarro Oil Co.'s Rossi 1, 6179 ft in Yegua and plugged back. **Development and Producing Methods:** 10-in 550 ft; some wells set producing string atop sand, others through zone and perforate. Majority of wells flowing naturally or through valves. **Outlets:** Republic Oil Corp., Gravis Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Navarro Oil Co., Frank J. Gravis, Doran Brothers, Republic Production Co., Benedum & Trees Oil Co., Hiawatha Oil & Gas Co., C. P. Burton, Standard Oil Co. of Kansas, Argo Oil Corp., Highland Oil Co., Lonnie Glasscock, Humble Oil & Refining Co., Bridwell Oil Co., Bryant & Howell, Glenn H. McCarthy, Nordan & Morris, Parr & Delaney Oil Co., Reynosa Oil Co., Saltomount Oil Co., Southwood Oil Co., Woodley Petroleum Co., Moran Oil Corp.

PALANGANA

2 miles n Noleda, Sections 4, 247, 245, 81, 82, 241, 255, 2 and 3. **Means of Discovery:** Geology. **Discovery Data:** National Oil Co.'s R. Schallert 1, June 30, 1938, pumping 30 bbls 16-gr oil, 450-52 ft. **Structure:** Geology. **Elevation:** 420 ft. **Formation, Depth, Gravity:** Catahoula (Marine Miocene). **Productive Area:** 50 acres. **Development to July 1, 1939:** 83 wells, 5 oil, 78 failures. **Expected Ultimate Recovery:** 10,846 bbls. **Produced to Jan. 1, 1939:** 10,846 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Frank Gravis, Gravis et al's 2, abnd 5454 ft, Oct. 23, 1936. **Principal Leaseholder:** Frank J. Gravis. **Remarks:** Was actively explored by Union Sulphur Co., is used by The Southern Alkali Co. of Corpus Christi which has an 8-in line from the field to Corpus Christi transporting brine solution. Majority of wells listed as failures are sulphur core holes.

PENA‡

10 mi e Freer, Sections 79 and 80. **Means of Discovery:** Geology. **Discovery Data:** Stanley Smith (Smith & Hunter's) Pena 1, Jan. 31, 1933, 30,000,000 cu ft gas, 700 lbs tubing pressure, producing horizon 1915-32 ft. **Structure:** Small sand lensing structure back up against fault. **Elevation:** 510 ft. **Formation, Depth, Gravity:** Frio, 1930 ft, gas. **Productive Area:** 10 acres. **Development to July 1, 1939:** 1 gas, 2 failures. **Expected Ultimate Recovery:** Gas. **Deepest Hole:** Stanley Smith's Manuel Oliverez 1; 3620 ft; abnd May 10, 1933. **Principal Leaseholders:** Parr Oil Co. holds most of acreage in general vicinity.

PETERS

12 mi sw from Freer, Sections 176, 178, 184, 188, 38, 65, 34, 177. **Means of Discovery:** Geology, trend play. **Discovery Data:** Shasta Oil Co. & Highland Oil Co.'s Peters 1, Jan. 15, 1933, 20,000,000

* Prospect. ‡ Gas field.

Dependable sub-surface data

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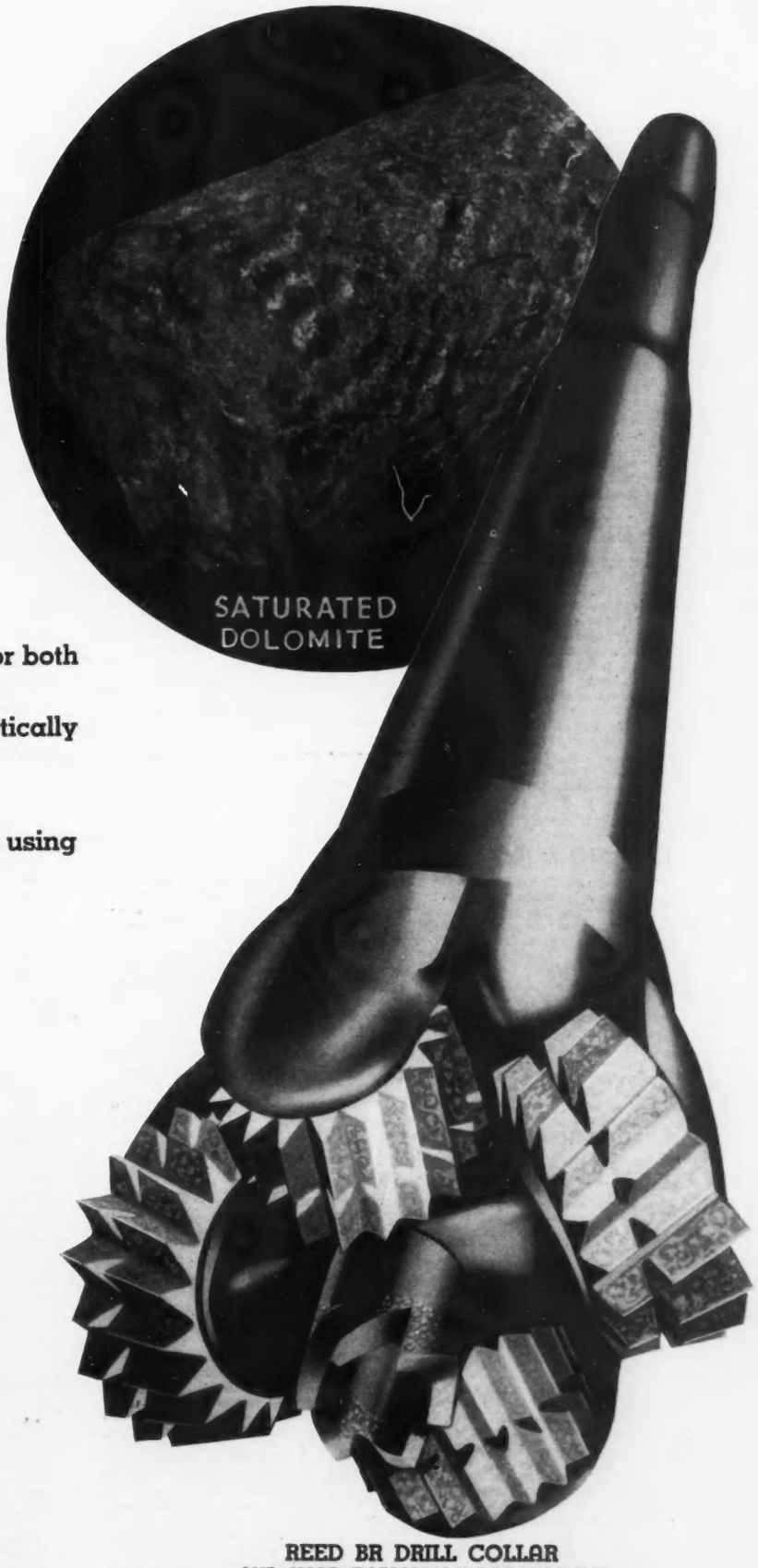

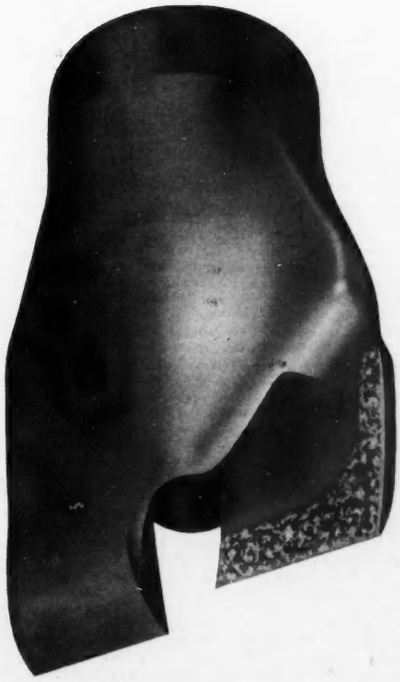

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DISTRIBUTORS FOR MARTIN-DECKER PRODUCTS

cu ft gas, 750 lbs rock pressure, total depth 2451 ft, producing horizon 2431-51 ft. **Structure:** Sand lensing closing on west and dipping to east. **Elevation:** 650 ft. **Formation, Depth, Gravity:** Cole, 1800 ft, gas; Government Wells, 2450 ft, gas; Mirando sand, 2750 ft, 23-gr oil. **Productive Area:** 1500 acres, 160 oil, 1340 gas. **Development to July 1, 1939:** 29 wells; 9 oil, 8 gas, 12 failures. **Expected Ultimate Recovery:** 928,000 bbls. **Produced to July 1, 1939:** 137,691 bbls. **Remaining Reserve:** 790,309 bbls. **Deepest Hole:** Tom Graham's J. D. Sutherland 1, 3309 ft, pb to 2342-47½ as gasser Sept. 3, 1936. **Development and Producing Methods:** 10-in 100 ft, 7-in atop sand; most of wells are flowing. **Outlets:** United Gas System, Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Mills Bennett Prod. Co., Windsor Oil Co.

PIEDRA LUMBRE

1½ mi nw Government Wells field, Sections 100 and 95. **Means of Discovery:** Based on surface fault trace in the immediate vicinity. **Discovery Data:** Magnolia Petroleum Co.'s Duval County Ranch 1, Sept. 5, 1935, 312 bbls 22.5-gr oil, ⅝-in choke, 2133-39 ft. **Structure:** Sand lensing. **Elevation:** 530 to 600 ft. **Formation, Depth, Gravity:** Cole sand, 1350 ft, gas; Government Wells sand, 1975 ft, 20.5-gr; Loma Novia sand, 2140 ft, 22.5-gr. **Productive Area:** 1460 acres, 1020 oil, 320 gas, 440 undeveloped. **Development to July 1, 1939:** 96 wells, 83 oil, 4 gas, 9 failures. **Expected Ultimate Recovery:** 9,435,000 bbls. **Produced to July 1, 1939:** 349,904 bbls. **Remaining Reserve:** 9,085,096 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Duval County Ranch Co. 3 (Survey 97) drilled to 3250 ft, pb to 1625, perf 1321-39 ft and completed as gasser. **Development and Producing Methods:** 10-in 180 ft, producing string atop sand. Majority of wells producing through flow valves or via jet. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Dutex Prod. Co., Humble Oil & Refining Co., Magnolia Petroleum Co., The Texas Co. **Remarks:** This area is being merged with Eagle Hill.

PIEDRAS PINTAS

2 mi ne Benavides, Sections 185, 8, 531, 245, and 12, east central part of county. **Means of Discovery:** Oil seeps. **Discovery Data:** National Oil Co.'s Tinney 1, Sept. 10, 1935, 12 bbls 12-gr oil, 460-80 ft. **Structure:** Salt dome, piercement type. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Shallow zones from 180-580 ft in Catahoula; lower zone Hockleyensis sand, 3600 ft, 34-gr. **Productive Area:** 150 acres. **Development to July 1, 1939:** 66 wells, 29 oil, 37 failures. **Expected Ultimate Recovery:** 225,000 bbls. **Produced to July 1, 1939:** 146,621 bbls. **Remaining Reserve:** 78,379 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Walsh et al 7, Section 185, abnd 4502 ft, sands 3821-25, 4485-4502 ft showed oil and salt water. **Development and Producing Methods:** Shallow wells set casing atop sand and complete on pump. **Outlets:** Loading racks on Tex-Mex Railway. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** A & M Well Service, C. H. & O. Oil Co. **Remarks:** Except for few shallow pumpers, field is dormant at present. This was actually first oil to be produced in South Texas, wells being completed as early as 1860.

RANCHO SOLO

18 mi sw from Freer, Section 157. **Means of Discovery:** Geology. **Discovery Data:** California Co.'s Gruy 1, Nov. 27, 1935, 25,000,000 cu ft gas, 800 lbs pressure, producing horizon 2555-69 ft, plugged 2575 ft, perforated 2555-69 ft, set 5½-in 2625 ft. **Structure:** Sand lensing. **Elevation:** 735 ft. **Formation, Depth, Gravity:** Cole, 1800 ft, 21-gr; Government Wells 2560 ft, gas. **Productive Area:** 820 acres, 240 oil, 260 gas, 120 undeveloped. **Development to July 1, 1939:** 35 wells, 21 oil, 5 gas, 9 failures. **Expected Ultimate Recovery:** 840,000 bbls. **Produced to July 1, 1939:** 96,005 bbls. **Remaining Reserve:** 743,995 bbls. **Deepest Hole:** Discovery well. **Development and Producing Methods:** 10-in 20 to 40 ft. Producing string in most cases through sand and perf to overcome high gas/oil ratio. Many wells on pump or jetting, showing considerable salt water. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** McCallum & Forber, Rio Bravo Drilling Co., Cox & Hamon, V. G. Schimmel, Lanning & Coffield, Bunn Brothers, Coates, Inc., Lanning, Noake & Evans, Stewart, Nye & McKenzie, P. L. Keller.

REALITOS*

2 mi se Realitos, Santos Garcia Survey. **Means of Discovery:** Several shallow wells drilled. Shell Oil Co. has evidence of probable salt dome in work done about 1930. Magnolia Petroleum Co. in 1938 did work in the area. **Development:** Magnolia Petroleum Co.'s Lasiter 1, was drilled in 1939, and abnd at 6135 ft. **Principal Leaseholders:** Magnolia, Shell.

SARNOSA

5 mi sw Freer, Sections 574, 576, 130, 127. **Means of Discovery:** Geology and trend play. **Discovery Data:** Capps & Smith's Duval County Ranch Co. 1, April 19, 1932, 50,000,000 cu ft gas, spraying small quantity of 22-gr oil, 2412 ft, sand and shale series 2350 ft to total depth. **Structure:** Sand lensing and faulting. **Elevation:** 720 ft. **Formation, Depth, Gravity:** Hockleyensis zone of Jackson series, locally called Lower Government Wells horizon, 2400 ft, 22-gr. **Productive Area:** 660 acres, 590 oil, 70 gas. **Development to July 1, 1939:** 77 wells, 51 oil, 5 gas, 21 failures. **Expected Ultimate Recovery:** 3,835,000 bbls. **Produced to July 1, 1939:** 2,152,235 bbls. **Remaining Reserve:** 1,683,125 bbls. **Deepest Hole:** Texas Co.'s D. Ruiz 2, Section 127, abnd 2816 ft Aug. 1, 1932. **Development and Producing Methods:** 10-in 100 ft, producing string atop sand. Practically all wells on pump and majority are making salt water. **Outlets:** Magnolia Pipe Line Co., Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Magnolia Petroleum Co., Sarnosa Oil Corp., Seaport Oil Corp., Sun Oil Co., Wertheimer Oil Corp.

* Prospect. ‡ Gas field.

SEVEN SISTERS

2 mi s of center n line of county, Sections 226, 308, 112, 118, 225, 224, 284, 386, 384, 383, 381, 102, 220, 113 and 591. **Means of Discovery:** Surface and subsurface geology. **Discovery Data:** Harvey & Henderson's Chernoskey 1, May 13, 1934, pumping 73 bbls 20.5-gr oil, 2650 ft, producing horizon 2220-25 ft. **Structure:** Sand lensing some nosing and faulting. **Elevation:** 460 to 480 ft. **Formation, Depth, Gravity:** Cole sand, Jackson, 21-gr at 1750 ft; Chernoskey (Hockleyensis of Jackson age), 2200 ft, 20.5-gr; Government Wells 2500 ft, 23-gr; Loma Novia 2600 ft, 27-gr; Mirando about 100 ft below Loma Novia 2550 ft, 23-gr (depth variance due to elevation). **Productive Area:** 4350 acres, 4150 oil, 200 undeveloped. **Development to July 1, 1939:** 523 wells, 456 oil, 6 gas, 61 failures. **Expected Ultimate Recovery:** 47,725,000 bbls. **Produced to January 1, 1939:** 9,781,118 bbls. **Remaining Reserve:** 37,942,812 bbls. **Deepest Hole:** Shell Oil Co.'s J. F. Welder 2-B, abnd 4404 ft April 11, 1936. **Development and Producing Methods:** 10-in 40 ft, producing string atop sand. Large number of wells have been placed on pump, rest flowing naturally or through flow valves. Wells on east side of field making considerable water. **Outlets:** Magnolia Pipe Line Co., Humble Pipe Line Co., Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Atlantic Refining Co., W. W. Blocker, Blanco Oil Co., Darby Petroleum Corp., Dulce Oil Co., Harvey & Henderson, Humble Oil & Refining Co., Blanco Oil Co., Al Buchanan Prod. Company, Darby Pet. Corp., Illinois Petroleum Co., Magnolia Petroleum Co., Ed Leach, Mid-Continent Petroleum Co., Navarro Oil Co., Pan American Prod. Co., G. B. Parr et al, Delaney Oil Co., Reliance Corp., S. & D. Daube, Shell Oil Co., The Texas Co., Trio Oil Co., Wellington Oil Co. **Remarks:** Current production (1,131,556 bbls to July 1, 1939) includes Ignacio and Los Picachos.

S. R. C.

9 mi nw Freer, Section 293. **Means of Discovery:** Geological information. **Discovery Data:** S. R. & C. Oil Corp. et al's Duval County Ranch Co. 1, Sept. 23, 1930, 300 bbls 20.8-gr oil, 1731-40 ft. **Structure:** Monoclinal fold. **Elevation:** 420 ft. **Formation, Depth, Gravity:** Cole sand, 1000 ft, 21-gr; Hockleyensis sand, likely Mirando, 1750 ft, 21-gr. **Productive Area:** 240 acres, 120 oil, 120 undeveloped. **Development to July 1, 1939:** 15 wells, 8 oil, 7 failures. **Expected Ultimate Recovery:** 300,000 bbls. **Produced to July 1, 1939:** 200,986 bbls. **Remaining Reserve:** 99,014 bbls. **Deepest Hole:** Texas Co.'s Duval County Ranch Co. 1, abnd 2331 ft. **Development and Producing Methods:** 10-in 20 ft, producing string atop sand. Field being revived in new sand and several wells flowing. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Magnolia, S. R. & C., Transwestern Oil Co. **Remarks:** Reserve total includes Charamousca field with 80 acres, making total involve 160 producing acres in both fields. Also includes all production figures of Charamousca.

SOUTHLAND

2 m sw North Sweden field, Section 7, Ball Ranch Subdivision, Santa Flores Grant. **Means of Discovery:** Trend drilling and subsurface correlation. **Discovery Data:** Hiawatha Oil & Gas Co.'s Southland a-1, April 13, 1939, 145 bbls 44.89-gr oil, 5/32-in choke, 620 lbs tubing, 1520 lbs casing pressures, 5286-98 ft. **Structure:** Sand lensing, likely some faulting. **Elevation:** 401 ft. **Formation, Depth, Gravity:** Pettus, 5285 ft, 44.89-gr. **Productive Area:** 80 acres, 20 oil, 60 undeveloped. **Development:** New field. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 6346 bbls. **Remaining Reserve:** 93,654 bbls. **Deepest Hole:** Discovery well. **Development and Producing Methods:** 10¾-in csg, 439 ft, 7-in csg, 5287 ft. **Outlet:** Duval Pipe Line Company. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Henderson Coquat, Anselma Oil Co., Hiawatha.

SWEDEN

4 mi e Sweden, Sections 14, 15, and 24, Ball Subdivision, Santos Flores Grant. **Means of Discovery:** Geological and geophysical information, data from several deep wells previously drilled indicated favorable structural condition. **Discovery Data:** Hiawatha Oil & Gas Co.'s Southland 1, Feb. 3, 1937, 10 bbls 58-gr oil per hour, ⅛-in choke, tubing pressure 710 lbs, csg pressure 1200 lbs, depth 5867 ft, perforations 5846-56 ft, elevation 385 ft, derrick floor. **Structure:** Several very pronounced faults disclosed from small amount of drilling, sands lenticular. **Elevation:** 380 ft. **Formation, Depth, Gravity:** Hockleyensis zone of Jackson age (upper and lower Government Wells zones) 5070-5121 ft, gas and 46-gr; Cockfield, 5850 ft, 58-gr. **Productive Area:** 520 acres, 220 oil, 160 gas, 140 undeveloped. **Development to July 1, 1939:** 17 wells, 8 oil, 3 gas, 5 failures. **Expected Ultimate Recovery:** 1,870,000 bbls. **Produced to July 1, 1939:** 180,412 bbls. **Remaining Reserve:** 1,689,588 bbls. **Deepest Hole:** Hiawatha's Southland 3, abnd 7005 ft, Aug. 4, 1937. **Development and Producing Methods:** 10-in 900 ft, producing string through sand and perforated to control gas/oil ratio. All wells flowing. **Outlet:** Republic Oil Corp. line to loading rack at Sweden. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Hiawatha.

TESORO

5 mi sw Alice, BBB&C Survey. **Means of Discovery:** Geophysics and geology. **Discovery Data:** Arkansas Fuel Oil Co.'s Cuellar 1, June 20, 1938, 78.54 bbls 45-gr in 20 hours, ⅝-in choke, 150 lbs tubing, 670 lbs csg pressures, producing horizon 5108-36 ft, total depth 5520 ft, perforated 5109-17 ft with 30 shots. **Structure:** Nosing and faulting.**Elevation:** 430-50 ft. **Formation, Depth, Gravity:** Pettus 5105 ft, 45-gr. **Productive Area:** 360 acres, 160 oil, 80 gas, 140 undeveloped. **Development to July 1, 1939:** 13 wells, 8 oil, 1 gas, 4 failures. **Expected Ultimate Recovery:** 1,200,000 bbls. **Produced to July 1, 1939:** 90,835 bbls. **Remaining Reserve:** 1,109,165 bbls. **Deepest Hole:** Arkansas Fuel Oil Co.'s Cuellar 2, abnd 5541 ft, July 24, 1938. **Development and Producing Methods:** 10¾-in csg, 198 ft; 7-in csg, 5493 ft. All wells flowing. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Arkansas Fuel Oil Co., Rowan & Hope, Sinclair Prairie Oil Co., Atlantic Refg. Co., Magnolia Petroleum Co., Sun Oil Co.

THOMAS-LOCKHART

8 mi nw of San Diego, E. H. Valentine Survey 26. **Means of Discovery:** Geological information based on subsurface correlations of wells in immediate vicinity. Largato Inlier. **Discovery Data:** Thomas and Lockhart Bros.' Parr 1, April 18, 1937, 125 bbls 56-gr oil, large volume of gas, ¼-in choke, tubing pressure 975 lbs, casing pressure 1300 lbs, sand 4659-72 ft. **Structure:** Sand lensing, also some faulting. **Elevation:** 500 ft. **Formation, Depth, Gravity:** Pettus in Cockfield, 4670 ft, 56-gr. **Productive Area:** 320 acres, 60 oil, 260 gas. **Development to July 1, 1939:** 13 wells, 4 oil, 3 gas, 6 failures. **Expected Ultimate Recovery:** 270,000 bbls. **Produced to January 1, 1939:** 11,789 bbls. **Remaining Reserve:** 258,211 bbls. **Deepest Hole:** Intrepid Oil Co.'s Parr 2, abnd 5305 ft. **Development and Producing Methods:** 10-in 350 ft; 7-in producing string through sand and perforated to control gas/oil ratio. **Outlets:** Trucks. **Rigs Running:** None. **Principal Leaseholders:** E. R. Thomas Estate & Lockhart Bros.

EDWARDS COUNTY

HOLLMAN*

Sutton County line and near Val Verde County line. **Means of Discovery:** Surface geology. **Development:** Phillips Petroleum Co. has drilled 4 wells. Cusenberry 1 abnd 1036 ft, Cauthorn abnd 975 ft, Hollman 1 abnd 6635 ft, elevation 2247 ft, Pennsylvanian topped 3485 ft, Hollman 2 drilled to 8230 ft, elevation 2250 ft, Pennsylvanian 3485 ft, Ordovician 7565 ft; number of shows of gas.

PETERSON*

Centering around Wyatt Survey, just w of nwc of Real County, but in Edwards County. **Means of Discovery:** Geology. **Development:** K. K. Stout's Peterson 1 and 2 in 1926, to 2850 ft and 4600 ft, respectively. Gas shows encountered around 3910 ft. James Dalglish's Peterson drilled to 5206 ft and got top Ellenberger below 4250 ft. It has gas shows between 3905-50 ft. Trans-Continental Oil Co.'s Peterson 1 drilled to 3962 ft, elevation 2360 ft, and topped Pennsylvanian at 1400 ft.

RIGSBY*

15 mi ne of Rocksprings, centering around Section 16. **Development:** Dan Auld et al took a farmout on Mrs. Mammie Rigsby land from The Texas Company and drilled Ordovician test to 3952 ft, abnd June 10, 1937; elevation 2291 ft, topped Ellenberger 3874 ft, recovered a bailer of 26-gr oil in 12 hours 3920-22 ft, hard lime 3922-3943 ft, warm salt water in lime 3944-50 ft. Test considerably higher than another drilled in the same area.

FRIO COUNTY

BIG FOOT*

Near Bigfoot in nec of county, centering around Section 139. **Means of Discovery:** Geological information, known faulting in area evidenced at surface. **Development:** Wray & Dunbar's Burns 1, drilled early in 1931, blew out at 2311-68 ft, showing about 1000 lbs pressure with little volume of gas. It was deepened to 3708 ft in Edwards lime topped at 3662 ft, showing oil stains, but developing sulphur water on completion attempt. Several other wells were drilled, none finding production. Shoemaker et al drilled M. Roach Estate 1 to 2390 ft where it developed 600 lbs pressure, a little oil and a small gas volume. It was carried to 4005 ft and abnd July 18, 1935. All gas showings were in the Navarro-Taylor section.

DOERING‡

M. L. Carranza Survey 302, 20 mi sw Pearsall. **Means of Discovery:** Geology and geophysics. **Discovery Data:** Amerada Petroleum Corp.'s F. Doering 1, April 4, 1934, 1,400,000 cu ft gas, 6507 ft, 7-in casing set 6060 ft, milled out 5971 ft, sidetracked and drilled to 6459 ft after pb original hole. **Structure:** Local high on anticline. **Elevation:** 580 ft. **Formation, Depth, Gravity:** Del Rio, Buda, Georgetown and Edwards lime. **Productive Area:** 20 acres gas. **Development to July 1, 1939:** 1 wet gas well. **Expected Ultimate Recovery:** Gas field, no estimate. **Development and Producing Methods:** 20-in 30 ft, 10-in 1625 ft, producing string atop pay. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Open acreage.

PEARSALL

4 mi sw Pearsall, S. Blain, Jose Arocha, J. M. Figerina, San Antonio Ditch Co., J. B. Mason, A. Lynch, S. Glenn and others. **Means of Discovery:** Geological work, core drilling geophysical work. **Discovery Data:** Amerada Petroleum Corp.'s Halff & Oppenheimer 2, Dec. 26, 1934, ½-in choke, 360 lbs tubing, 890 lbs casing pressures, total depth 10,050 ft, producing horizon 3907-25 ft, elev 540 ft; pb 3925 ft, casing ripped 3907-15 ft, flowed 8,000,000 cu ft gas, 139 bbls fluid part 24-gr oil. **Structure:** Elongated dome, sand lens in Navarro, fractured chalk section, porous lime on flank of structure. **Elevation:** 500-600 ft. **Formation, Depth, Gravity:** Navarro sand, 3900 ft, 26-gr; Austin chalk, 5200-5600 ft, 28-gr; Georgetown limestone, 5900-6000 ft, 39.6-gr; Edwards limestone, 6200 ft, 38-gr. **Productive Area:** 2000 acres, 650 oil. **Development to July 1, 1939:** 26 wells, 23 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** 5,200,000 bbls. **Produced to July 1, 1939:** 1,022,000 bbls. **Remaining Reserve:** 4,178,000 bbls. **Deepest Hole:** Amerada Pet. Co.'s Halff & Oppenheimer 8, 10,341 ft, plugged back and developed production in Austin chalk. **Development and Producing Methods:** 20-in 40 ft, 10-in 30 ft, producing string atop pay with hole drilled in most cases below this level by cable tools. Formation acidized and shot before completion. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Amerada.

FRIO TOWN

In nw portion of county, Juan Figuerroa Survey No. 151. **Means of Discovery:** Geological information based upon subsurface correlations on several failures in vicinity. **Discovery Data:** H. A. Pagenkopf and L. C. Jamieson's Houston Estate 1, April 14, 1938, pumped 20 bbls oil, 150 bbls water per day, 2651 ft, pb to 2625 ft and treated with 2500 gals acid, following which shot with 120 qts; top chalk 2592 ft, casing at 2579 ft. **Structure:** Faulted, production from crevice. **Elevation:** 631 ft. **Formation, Depth, Gravity:** Austin chalk, 2592-2651 ft, 32.4-gr. **Production Area:** 10 acres. **Development to July 1, 1939:** 1 oil, 3 failures. **Expected Ultimate Recovery:** Field produced several hundred bbls of oil while in completion stage, then abnd. **Deepest Hole:** Pagenkopf & Jamieson's Blackaller 1, abnd Aug. 1, 1937, 3270 ft in Edwards limestone, topped 3219 ft. **Development and Producing Methods:** 10-in 40 ft, 7-in atop pay. Shot and acidized for completion. **Principal Leaseholders:** Pagenkopf & Jamieson, A. Dovre.

SHATTEL

2½ mi sw Shattel, 9 mi ne Pearsall, J. Travalder Survey 174. **Means of Discovery:** Surface geology, also considerable geophysical work done. Core drilled with about 30 core holes ranging down to 200 ft. Seismograph and magnetic type of geophysical equipment. **Discovery Data:** Humble Oil & Refining Co.'s Schley 1, Nov. 25, 1939, pumped 21 bbls fluid, 55 percent salt water, 4685-5035 ft, total depth 5309 ft. **Structure:** Faulted anticline. **Elevation:** 516 ft. **Formation, Depth, Gravity:** Austin chalk, 4685 ft, 25-gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 5 wells, 1 oil, 4 failures. **Expected Ultimate Recovery:** 633 bbls. **Produced to January 1, 1939:** 633 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Discovery well. **Principal Leaseholders:** Humble, George E. Smith, Shell Oil Co., Magnolia Petroleum Co., Gulf Oil Corp.

SOUTHEAST PEARSALL*

12 mi se Pearsall, BS&F Section 1, **Means of Discovery:** Core drilling, some geophysical work. **Development:** Not drilled. **Principal Leaseholder:** Humble Oil & Refining Co.

WOODWARD*

Northwest corner of county, E. Poor Survey No. 14. **Means of Discovery:** Geological information, etc. **Development:** Humble Oil & Refining Co.'s Woodward 1, abnd in 1934 as result fishing job at 1800 ft. No. 2, 25 ft away, drilled to 2873 ft, or 40 ft in Edwards limestone, where it tested 300 ft sulphur water in 30 minutes, Serpentine from 1783 to 1909 ft, but Serpentine was dry, abnd April 15, 1934.

GOLIAD COUNTY

CABEZA CREEK*

3 mi ne Charco, S. Vela & M. de J. Yarbo. **Means of Discovery:** Geological information led to original drilling. Geophysical work done later. **Development:** V. F. Neuhaus' J. E. Pettus 1, abnd 3853 ft but later taken over by John F. Camp and Southern Crude Oil Purchasing Co. and deepened to 4386 ft, then plugged back to 4298 ft and completed July 25, 1931, flowing 8,000,000 cu ft gas spraying 110 bbls of fluid, 70% salt water and remainder high-gravity oil through ¼-in choke at 4293-98 ft. It was in the Pettus sand (Cockfield). Three more wells drilled by Camp and Stanolind Oil & Gas Co., abnd. Thompson Drilling Co.'s Pettus 1, 1100 ft se of discovery, abnd March 16, 1936, at 4751 ft after finding shows at 4601-09 ft in Yegua. J. D. Brock et al drilled V. Dial 1 to 5050 ft, after top Pettus 4360 ft, then abnd Dec. 19, 1938. H. R. Cullen's W. S. Pettus 1 was abnd April 7, 1939, at 8606 ft, apparently in Wilcox.

FANNIN*

6 mi ne Goliad, centering around Daniel O'Driscoll and S. Parks surveys. **Means of Discovery:** Geophysical and geological work by Benedum & Trees in 1929. **Development:** Gibson Oil Co. and Benedum & Trees' G. B. Parks 1 later taken over by Plymouth Oil Co., drilled to 5267 ft and abnd. In Dec., 1930, is was plugged back to sand at 4520-41 ft, completed as a 3,000,000 cu ft gasser. Plymouth then drilled another well, but had the same trouble around 5000 ft, not being able to get through heaving shale and abnd.

HORDS CREEK

Southerland and Martinez surveys, w portion of county. **Means of Discovery:** Geological information, trend play, surface indications of faulting. **Discovery Data:** F. P. Zoch et al's J. R. Kauffman 1, Dec., 1929, 12,000,000 cu ft wet gas, ½-in choke, 1500 lbs tubing, 1600 lbs rock pressure, total depth 4232 ft, sand 4216-32 ft. **Structure:** Sand lensing backed up against faulting. **Elevation:** 285 ft. **Formation, Depth, Gravity:** Cockfield (Pettus), 4200 ft, wet gas; Yegua, 4500 ft, 47.6 gr. **Productive Area:** 280 acres; 80 oil, 120 gas, 80 undeveloped. **Development to July 1, 1939:** 12 wells, 2 oil, 1 gas, 9 failures. **Expected Ultimate Recovery:** 320,000 bbls. **Produced to July 1, 1939:** 41,295 bbls. **Remaining Reserve:** 278,705 bbls. **Deepest Hole:** Tidal Oil Co.'s

* Prospect. ‡ Gas field.

Pereira 1, abnd 6004 ft. **Development and Producing Methods:** Old field and no recent development. High gas/oil ratio had proved problem. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Brown & Wheeler, Sun Oil Co.

LA BAHIA‡

Goliad Town Tract, Range 4, w Goliad Townsite. **Means of Discovery:** Magnetometer and geological survey, information on two abnd wells. **Discovery Data:** Goliad Oil Co.'s S. E. Cole 1, May 30, 1937, 20,000,000 cu ft gas with spray distillate, 3250 lbs working pressure, drill stem was stuck when well drilled 18-in into sand at 5544 ft and completion was through that pipe. **Structure:** Sand lensing against fault. **Elevation:** 192 ft. **Formation, Depth, Gravity:** Cockfield, 5550 ft, 58-gr distillate. **Productive Area:** 40 acres. **Development to July 1, 1939:** 5 wells drilled, 2 gas and distillate, 3 junked. **Produced to January 1, 1939:** Gas field, shut in. **Deepest Hole:** Goliad Oil Co.'s S. E. Cole 1-A, abnd 5687 ft Dec. 24, 1937. **Development and Producing Methods:** Various methods have been employed to overcome pressure without success. Production string set just above sand and well drilled into zone with heavy mud, following which liner set on bottom and perforated. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Goliad Oil Co., Shell Oil Co., Wellington Oil Co., Houston Oil Co.

MAETZE‡

5 mi nw Fannin, centering around Gertrude Baerrera Survey. **Means of Discovery:** Geophysical survey. **Discovery Data:** Felmont Oil Corp.'s (was Claude Morgan et al) Maetze 1, Oct. 5, 1936, 519,000 cu ft gas, ⅛-in choke, with 1500 lbs pressure drilled to 5660 ft, plugged back to 3498 ft, perforated 3463-65 ft, elev 177 ft, df. Well later sprayed some distillate. **Structure:** Apparently an elongated domal proposition with some faulting and sand lensing. Too little work to definitely determine. **Elevation:** 160 to 200 ft. **Formation, Depth, Gravity:** Vicksburg, 3460 ft and 3800 ft, distillate. **Productive Area:** 140 acres. **Development to July 1, 1939:** 4 wells, 2 gas and 2 failures. **Expected Ultimate Recovery:** Gas and distillate, no estimate. **Produced to Jan. 1, 1939:** Shut in. **Deepest Hole:** DeArman et al's Drier 2, abnd 6885 ft June 30, 1939. **Development and Producing Methods:** 13⅜-in 220 ft, 10-in 4000 ft for protection; producing string through sand and perforated for production in 5500-ft zone which thus far has failed to produce commercially. **Outlet:** None. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Cron & Gracey, Stanolind Oil & Gas Co., H. J. DeArman, Winward Oil Co., H. G. Frost, Felmont Oil Corp., Atlantic Refining Co., C. F. Morgan, Abercrombie & Harrison, Sun Oil Co.

MANHUILLA CREEK*

6 mi nw Goliad, centering around W. R. Smith Survey. **Means of Discovery:** Geological survey. Some geophysical done in the general area. **Development:** Thompson Drilling Co.'s H. Taylor Est. 1, abnd Feb. 3, 1936, 5301 ft, had sand from 4980-5023 ft which developed 35 lbs pressure and 360 ft mud-cut with oil on a 5-min drill-stem test through ⅝-in choke. Elevation 270 ft derrick floor, top Hockleyensis 4055 ft. Yegua 5020 ft.

SARCO CREEK

8½ mi s Goliad, W. J. Bondick and T. J. Heard surveys. **Means of Discovery:** Surface and subsurface geology. **Discovery Data:** R. B. Swiger et al's Wood 1-B, Jan. 23, 1938, 34.5 bbls 27.1 oil per day, pumping; producing horizon 5009-18 ft, total depth 5048 ft, perforated 5009-15½ ft with 24 shots. **Structure:** Anticline with fault. **Elevation:** 113 ft. **Formation, Depth, Gravity:** Vicksburg, 5000 ft, 34.5 gr. **Productive Area:** 40 acres, 10 oil, 30 undeveloped. **Development to July 1, 1939:** 4 wells, 1 oil, 3 failures. **Expected Ultimate Recovery:** 20,000 bbls. **Produced to July 1, 1939:** 956 bbls. **Remaining Reserve:** 19,044 bbls. **Deepest Hole:** Keystone Royalty Co.'s Woods 2, abnd Jan. 3, 1936, 6702 ft in Yegua. **Development and Producing Methods:** 10¾-in csg, 527 ft; 5½-in csg, 5007 ft; only one well producing via pump. Deeper wells into Cockfield showed tremendous gas pressure. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Union Producing Co., Stanolind Oil & Gas Co., T. G. and M. Drilling Co., Rual B. Swiger, Humble Oil & Refining Co., Darby Petroleum Corp., Tide Water Oil Co., Shell Oil Co., J. K. Wadley, Crown Central Petroleum Co., Housh & Thompson.

SLICK

Obid Marshall Survey, 8 mi se Nordheim, DeWitt County line. **Means of Discovery:** Geological information structure; considerable sand lensing. **Discovery Data:** T. B. Slick et al's Poetter 1, Dec. 22, 1930, 545 bbls 48-gr oil and 10,000,000 cu ft gas, ¼-in choke; total depth 4213 ft, producing horizon 4199-4213 ft. **Structure:** Folding and faulting; three east-west faults cut structure; considerable sand lensing. **Elevation:** 322 ft. **Formation, Depth, Gravity:** Pettus sand of Cockfield section of Jackson, 4200 ft, 48 gr; Yegua, 4400 ft, 49 gr. **Productive Area:** 240 acres, 80 oil, 160 gas. **Development to July 1, 1939:** 18 wells, 2 oil, 3 gas, 13 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 92,438 bbls. **Remaining Reserve:** 7562 bbls. **Deepest Hole:** Dirks Bros.' Allen 2, abnd July 27, 1937, 4580 ft in Yegua. **Development and Producing Methods:** 10-in 300 ft, 7-in atop sand, only one oil well and it's flowing. Several gas wells shut in. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** The Whitex Co., Dirks Bros. **Remarks:** Discovery well abnd and block dormant several years, production restored by subsequent drilling.

WESER

8 mi n Goliad, John Hancock Survey. **Means of Discovery:** Geophysical and geological work. **Discovery Data:** The California Co.'s (Standard Oil Company of Texas) Langrebe 1, Oct. 4, 1936, drilled to 5052 ft, plugged back 4812 ft, flowed 125 bbls 46 gravity oil per day 11/64-in choke, tubing 320 lbs, casing 730 lbs, sand 4797-4807 ft. **Structure:** Sand lensing and faulting. **Elevation:** 230 ft. **Formation, Depth, Gravity:** Yegua, 4800 ft, 46 gr; Cook Mountain, 5300, 52 gr distillate. **Productive Area:** 220 acres, 30 oil, 100 gas, 90 undeveloped. **Development to July 1, 1939:** 5 wells, 3 oil, 2 failures. **Expected Ultimate Recovery:** 30,000 bbls. **Produced to July 1, 1939:** 5078 bbls. **Remaining Reserve:** 24,922 bbls. **Deepest Hole:** Steinberger Petroleum Corp.'s Albrecht 1, dr to 5313 ft, pb and comp as distillate producer through perf 4804-32 ft, Jan. 23, 1939. **Development and Producing Methods:** 10¾-in 550; 5½-in through sand and perforated to control high gas volume. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Steinberger Petroleum Co., Standard Oil Co. of Texas, Martex Oil Co., Sun Oil Co.

GONZALES COUNTY

OTTINE

4 mi east Luling, Winslow Turner, James Ruth, J. G. Webb, W. Smith surveys. **Means of Discovery:** Geological information. **Discovery Data:** Empire Oil & Gas Co.'s (Sullivan) Norwood 1, Dec. 19, 1928, 350 bbls 32.7-gr oil; total depth 4176 ft, crevice 3765-79 ft, 6⅝-in casing 3725 ft, went dead, deepened to 4296 ft, abnd. **Structure:** Production on upthrow side of ne-sw fault, several cross faults in vicinity of field. **Elevation:** 475 ft. **Formation, Depth, Gravity:** Crevice in top of Austin chalk, 3750 ft, 32.7 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 8 wells, 1 oil, 7 failures. **Expected Ultimate Recovery:** 24,635 bbls. **Produced to July 1, 1939:** 24,635 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** J. J. Elam et al 1, abnd 4407 ft, 1929. **Principal Leaseholders:** Open acreage.

GUADALUPE COUNTY

DARST CREEK

15 mi e Seguin, Green DeWitt, Jacob Darst and other surveys. **Means of Discovery:** Geological information, drilling along fault. **Discovery Data:** Texas Co.'s Wilson 1, July 10, 1929, 2000 bbls 36.3-gr oil, 1-in choke, 2610 ft; producing horizon 2605-10 ft; elev 525 ft. **Structure:** Long narrow producing strip of production on upthrow side of faulting; producing horizon 25 to 45 ft thick. **Elevation:** 500 to 600 ft. **Formation, Depth, Gravity:** Edwards lime 2600 ft, 32.3 gr; some production from crevices above lime. **Productive Area:** 1860 acres. **Development to July 1, 1939:** 436 wells, 393 oil, 43 failures. **Expected Ultimate Recovery:** 74,400,000 bbls. **Produced to January 1, 1939:** 46,769,078 bbls. **Remaining Reserve:** 27,630,922 bbls. **Deepest Hole:** Diamond Half Oil Co.'s E. Bibbs et al 1, abnd in Trinity, 5510 ft, 1937. **Development and Producing Methods:** 10-in 40 ft; producing string on newer wells set near base of Georgetown. Wells are drilled to top of Edwards limestone and slight acid charge used to clear hole. All wells on pump, lifting considerable sulphur water with the oil. Part of field on central powers, rest on individual units. **Outlets:** Humble Pipe Line Co., Gulf Pipe Line Co., Magnolia Pipe Line Co., and others. **Rigs Running, July 1, 1939:** 3. **Principal Leaseholders:** Abercrombie & Harrison, Donald E. Blackmar, The Chiquita Oil Co., Tadlock et al, Cities Service Oil Co., Lovis Crouch, Ellmag Oil Corp., H. M. Freeman, Gulf Oil Corp., Humble Oil & Refining Co., Lincoln Petroleum Corp., Magnolia Petroleum Co., John F. Camp, Morris Oil Corp., W. D. Moore, Nancy Lee Oil Co., Penn Oil Co., Stroube & Stroube, Sun Oil Co., E. A. Tapp, The Texas Co., Texas-Humble Trio Oil Co., United North & South Development Co., H. H. Weinert et al, Weigand Bros.

MAIERHOFER*

8 mi sw Seguin, A. Peters Survey. **Means of Discovery:** Geological information, trend along known faulting. **Development:** Nick Marosis et al's Wm. Maierhofer 1, April 10, 1937, 3,000,000 cu ft gas in Navarro sand, 400 lbs pressure. Well located near Diamond Half's Maierhofer 1 which showed oil in Austin chalk. Marosis test with elev of 518 ft, topped Austin chalk at 1897 ft, drilled to 2020 ft and set csg. Failed to develop production so carried to 2175 ft in Edwards limestone, showed sulphur water, plugged back to Navarro sand at 815-25 ft where it was completed April 7, 1937, as 3,000,000 cu ft gasser with 400 lbs rock pressure. Maierhofer 2, abnd Sept. 1, 1938, at 952 ft; Maierhofer 3, abnd 1140 ft, Oct. 15, 1938. **Principal Leaseholder:** Nick Marosis.

MANFORD

7 mi s Luling, James Hodges Survey. **Means of Discovery:** Geological information, trend drilling on known fault. **Discovery Data:** Penn Oil Co.'s (Simms Oil Co.) J. Manford 1, Nov. 31, 1929, 450 bbls 37.3 gr oil, ⅛-in choke; total depth 2418 ft, producing horizon 2414-18 ft; elev 442 ft. **Structure:** Crevices on upthrow side of fault. **Elevation:** 442 ft. **Formation, Depth, Gravity:** Austin chalk, 2400 ft, 37.3 gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 13 wells, 6 oil, 7 failures. **Expected Ultimate Recovery:** 500,000 bbls. **Produced to Jan. 1, 1939:** 426,892 bbls. **Remaining Reserve:** 73,108 bbls. **Deepest Hole:** Sun Oil Co.'s J. W. Manford's abnd 2981 ft in Edwards lime, 1930. **Development and Producing Methods:** 10-in 20 ft; 7-in atop Edwards limestone; wells producing on pump and making large volume of water. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Pitzer & West.

NASH CREEK

3 mi e Darst Creek field, J. W. Burnham Survey. **Means of Discovery:** Geological data, trend play, surface indications of fault. **Discovery Data:** Carver & Kallison's Rumpf 1, Oct. 27, 1937, 42.2 bbls per hour 26.4 gr oil, ¼-in choke, td 2585 ft, 7-in 2571 ft, crevice in Taylor just below. Estimated at 300 bbls per hour through open tubing. **Structure:** Crevice. **Elevation:** 452 ft. **Formation, Depth, Gravity:** Taylor marl crevice, 2500 ft, 26.4 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 6 wells, 1 oil, 5 failures. **Expected Ultimate Recovery:** 40,000 bbls. **Pro-**

* Prospect. ‡ Gas field.

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DALLAS • FT. WORTH • HOUSTON

duced to Jan. 1, 1939: 30,318 bbls. **Remaining Reserve:** 9682 bbls. **Deepest Hole:** Carver & Kallison's Rumpf 2, abnd Dec. 12, 1938, 3142 ft. **Development and Producing Methods:** 10-in 30 ft, 7-in atop crevice. Discovery well flowing. **Outlet:** Magnolia Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Carver & Kallison, Riley Wyatt.

NEW BERLIN

3 mi s New Berlin, V. Duran Survey. **Means of Discovery:** Geological data, surface indication of falling. **Discovery Data:** Bruin Oil Co.'s Rosenbrock 1-A, Dec. 27, 1937, 125 bbls of fluid, 25% 19.5-gr oil, total depth 1882 ft, plugged back 1795 ft. **Structure:** Faulted. **Elevation:** 513 ft. **Formation, Depth, Gravity:** Austin chalk, 1650 ft, 19.5 gr. **Productive Area:** 300 acres, 40 oil, 260 undeveloped. **Development to July 1, 1939:** 21 wells, 4 oil, 17 failures. **Expected Ultimate Recovery:** 8000 bbls. **Produced to Jan. 1, 1939:** 600 bbls. **Remaining Reserve:** 7400 bbls. **Deepest Hole:** Discovery hole. **Development and Producing Methods:** 10-in, 20 ft; 6⅝-in to top of producing zone, well completed on pump. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** A. D. King, Wellington Oil Co., C. C. Hamill et al. **Remarks:** Several wells at 600 ft have produced a limited amount of 47-gr oil but can not be classified as commercial.

NOLTE

6 mi e Seguin, John Sowell Survey. **Means of Discovery:** Geological information; drilling along known fault. **Discovery Data:** Riddle Oil Co.'s Nolte et al 1, Jan. 8, 1937, 10 bbls 33-gr oil per day, drilled to 1880 ft, plugged back to 1850 ft, acidized. Top chalk 1790 ft, top saturation 1740 ft. **Structure:** Crevice area in fault plane. **Elevation:** 420 ft. **Formation, Depth, Gravity:** Austin chalk, 1850 ft, 33 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 3 wells, 1 oil, 2 failures. **Expected Ultimate Recovery:** 796 bbls. **Produced to Jan. 1, 1939:** 796 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Discovery. **Principal Leaseholders:** Open. **Remarks:** Appears to be a one-well proposition.

SAL-MAR

9 mi e Seguin, L. Bollinger Survey. **Means of Discovery:** Geological data. **Discovery Data:** Sal-Mar Oil Co.'s Zunker 1, June 15, 1932, 400 bbls oil, ¾-in choke; total depth 2042 ft, producing horizon 2022-42 ft, top Austin chalk 2022 ft. **Structure:** Crevice. **Elevation:** 430 ft. **Formation, Depth, Gravity:** Austin chalk 2050 ft, 32 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 10 wells, 1 oil, 9 failures. **Expected Ultimate Recovery:** 10,750 bbls. **Produced to Jan. 1, 1939:** 10,750 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Brogan & Wormser's F. A. Pfullman 1, abnd 2364 ft in Edwards lime. **Principal Leaseholder:** Open.

SOUTH DARST CREEK

9 mi se Seguin, J. K. Davis, Green DeWitt surveys. **Means of Discovery:** Trend play, geological data. **Discovery Data:** J. E. Clark's Lay 1, Aug. 7, 1935, pumping 350 bbls 34.5-gr oil; total depth 2446 ft, producing horizon 2372-2446 ft, elev 450 ft. **Structure:** Crevice area on main Darst Creek faulting. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Broken Austin chalk, 2400 ft, 34.5 gr. **Productive Area:** 110 acres. **Development to July 1, 1939:** 24 wells, 19 oil, 5 failures. **Expected Ultimate Recovery:** 440,000 bbls. **Produced to July 1, 1939:** 316,072 bbls. **Remaining Reserve:** 123,828 bbls. **Development and Producing Methods:** 10-in, 20 ft; 7-in atop Austin chalk; acid treatment up to 3000 gallons on chalk; all wells on pump. **Outlet:** Humble Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Amy Oil Co., Doody Oil Co., Freeman Oil Co., Romona Oil Co., Stegal Oil Co.

SPILLER

4½ mi sw Luling, Harriet Cottle Survey. **Means of Discovery:** Subsurface data. **Discovery Data:** Spiller et al's Wright 1, Mar. 31, 1938, 69.8 bbls 38.3-gr oil per day after acidizing with 1500 gallons under 500 lbs pressure, pumping; producing horizon 2012-2298 ft; total depth 2298 ft. **Structure:** Faulted. **Elevation:** 419 ft. **Formation, Depth, Gravity:** Buda limestone, 2000-2300 ft, 38.3-gr. **Productive Area:** 60 acres, 30 oil, 30 undeveloped. **Development to July 1, 1939:** 6 wells, 3 oil, 3 failures. **Expected Ultimate Recovery:** 75,000 bbls. **Produced to Jan. 1, 1939:** 5475 bbls. **Remaining Reserve:** 69,525 bbls. **Deepest Hole:** Frank H. Glenn's Appling 2, abnd April 13, 1939, in Edwards, 2382 ft. **Development and Producing Methods:** 8½-in 22 ft; 5½-in 2013 ft, all wells on pump after acid treatment. **Outlet:** Texas Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** J. W. Winkley, C. R. Tyrell, Terminal Oil Co., H. G. Spiller et al, Frank H. Glenn.

STAPLES

½ mi n Staples, Cyrus Campbell Survey. **Means of Discovery:** Geological data, trend drilling along fault. **Discovery Data:** Henadena Oil Co.'s Lowman 1, Oct. 9, 1934, 10 bbls oil; total depth 720 ft, producing horizon 694-720 ft. **Structure:** Fractured area along upthrow side of fault. **Elevation:** 525 ft. **Formation, Depth, Gravity:** Austin chalk, 700 ft, 23 gr. **Productive Area:** 10 acres. **Development to July 1, 1939:** 11 wells, 3 oil, 8 failures. **Expected Ultimate Recovery:** 5000 bbls. **Produced to July 1, 1939:** 2307 bbls. **Remaining Reserve:** 2693 bbls. **Deepest Hole:** Lincoln Petroleum Co.'s R. P. Lowman 1, abnd Aug. 28, 1939, at 3175 ft, in Trinity topped 3035 ft. **Development and Producing Methods:** 5½-in atop Austin chalk and acidized. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Lincoln Petroleum Co., Adams & Lyles, H. H. Weinert.

TIDAL SELIGMAN*

10 mi s Seguin, N. J. Williamson Survey. **Means of Discovery:** Trend drilling on known fault and geological information. **Development:** Tidal Oil Co.'s J. Seligman 1, blew out from a crevice in the Austin chalk at 2464-67 ft after topping Austin chalk 2 ft higher. It was killed, 8⅛-in casing set at 2462 ft and completion attempted at 2510 ft. It made about 750 bbls of oil during the next several days, went dead and was deepened to 2804 ft, abnd June 11, 1930.

* Prospect. ‡ Gas field.

ZOBOROSKI

12 mi e Seguin, J. D. Clements, DeWitt, Branch and Sowell surveys. **Means of Discovery:** Trend drilling on known fault and geological information. **Discovery Data:** W. J. Walton et al, Anton Zoboroski 1, July, 1931, 15 bbls 34.5-gr oil per day; total depth 2205 ft, producing horizon 2100-2205 ft, elev 436 ft; 6⅝-in 2125 ft. **Structure:** Fractured chalk area along ne-sw fault, producing on upthrow side of fault. **Elevation:** 410 to 450 ft. **Formation, Depth, Gravity:** Navarro, 900 ft, gas; Austin chalk, 2100-2400 ft, 34.5 gr. **Productive Area:** 180 acres. **Development to July 1, 1939:** 30 wells, 25 oil, 1 gas, 4 failures. **Expected Ultimate Recovery:** 630,000 bbls. **Produced to January 1, 1939:** 172,228 bbls. **Remaining Reserve:** 457,772 bbls. **Deepest Hole:** Adams & Lyles' E. Zoboroski 1, 2722 ft; abnd Jan. 5, 1930, in Edwards topped 2665 ft, taken over April 26, 1936, by Crouch et al, plugged back to 2210 ft and completed June 22, 1936, as 35-bbl well. **Development and Producing Methods:** 10-in, 40 ft; 7-in, atop Austin chalk. Wells on pump after acid treatment. **Outlets:** Crouch Oil Co., Magnolia Pipe Line Co., Humble Pipe Line Co. **Rigs Running, July 1, 1939,** None. **Principal Leaseholders:** Forest Development Corp., Grayburg Oil Co., A. W. Pausky, M. L. Harris Dr. Co.

HIDALGO COUNTY

FERNANDEZ*

3½ mi n Havana, Porciones 45 and 46. **Means of Discovery:** Geological information. **Development:** Dale L. Smith Oil Co. drilled 3 wells on A. H. Fernandez tracts, No. 4, abnd 2330 ft; No. 5 drilled to 4026 ft and made a gasser and No. 6 went to 2760 ft and abnd. D. M. C. Oil Co.'s Dasham abnd Sept. 28, 1935, 4115 ft; encountered sand 4090 to 4100 ft showing gas, and sand 4102-4114 ft developed oil and salt water. Daskam Bros.' Daskam 2, center Lot 14-A Daskam subdivision in Porcion 45, drilled to 4256 ft and abnd in 1937 after running electric formation test. E. L. Smith and Wheelock & Collins' Yturria 1, td 4146 ft, completed July 7, 1939, through perforations 3480-84 ft estimated at 10,000,000 cu ft gas with 1300 lbs closed-in pressure. This may be an extension to Samfordyce field, but more likely another area. **Principal Leaseholders:** Homer P. Lee, E. L. Smith, Wheelock & Collins.

LA BLANCA

8 mi e Edinburg, centering around La Blanca Grant. **Means of Discovery:** Geophysical survey. **Discovery Data:** Pantana Oil Co. et al's Harding 1, blew out Oct. 4, 1936, at 7840 ft, ran wild, caught fire, cratered and finally bridged. **Structure:** Likely domal type structure, similar to deep seated salt dome, no salt encountered to 9000 ft. **Elevation:** 80 ft. **Formation, Depth, Gravity:** Frio, 6650 ft, 62-gr; 7650 ft, 52-gr; 7900 ft, 48-gr; 8000 ft, 56-gr; all distillate. **Productive Area:** 4250 acres, 3250 distillate, 1000 undevloped. **Development to July 1, 1939:** 17 wells, 12 oil, 5 failures. **Expected Ultimate Recovery:** 9,750,000 bbls. **Produced to January 1, 1939:** 297,018 bbls. **Remaining Reserve:** 9,452,982 bbls. **Deepest Hole:** Quintana Pet. Corp.'s Engelman 1, abnd 8893 ft June 29, 1936, drill stem stuck. Elev 79 ft, top Catahoula 4021 ft; top Discorbis 4783 ft; top Frio 5200 ft; top Vicksburg 8813 ft. **Development and Producing Methods:** 18⅛-in 280 ft, 11¾-in 1850 ft, 7⅝-in on bottom about 8000 ft, for production from 8000-ft sand. Gas and distillate is produced through 5-in tubing set on packer and dry gas is recycled into casing side of same well into the 7800-ft sand. Other wells 16-in 250 ft, 10¾-in 1600 ft, 7-in through 7800-ft sand and perforations made at both 7600-ft and 7800-ft levels. Gas and condensate produced through casing side from 7600-ft sand, then recycled through tubing of same well into 7800-ft sand. **Outlets:** Local refinery and gasoline plant. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Pantano Petroleum Co., McCollum Exploration Co., D. D. Davenport, Atlantic Refining Co., Fohs Oil Co., Phillips Petroleum Co., Sterling Oil & Refining Co.

McALLEN

1 mi sw Pharr, 2 mi se McAllen, Block 202, Kelly-Pharr Subdivision, Porcion 69. **Means of Discovery:** Reflection seismograph by McCollum Exploration Co. **Discovery Data:** R. E. Harding and Pantano Pet. Co.'s Lynn 1, Aug. 19, 1938, 24 bbls 61.5-gr distillate, 2,500,000 cu ft gas per day, ⅝-in ch, 2025 lbs tubing, 2050 lbs casing pressures; producing horizon 5970-94 ft, total depth 7214 ft, pb perforated 5970-74 ft with 12 shots. **Structure:** Elongated dome. **Elevation:** 127 ft. **Formation, Depth, Gravity:** Frio, 5970 ft, 61.5-gr; 6500 ft, 60-gr; 6900 ft, 58-gr; 7400 ft, 55-gr. **Productive Area:** 2000 acres, 240 distillate, 1760 undeveloped. **Development to July 1, 1939:** 2 oil wells. **Expected Ultimate Recovery:** 600,000 bbls. **Produced to July 1, 1939:** 2147 bbls. **Remaining Reserve:** 579,853 bbls. **Deepest Hole:** R. E. Harding et al's E. M. Card 1, Jan. 16, 1939, at 7507 ft, perforated 7415-50 ft and flowed 92 bbls 55-gr condensate, 8,600,000 cu ft gas ⅝-in with 2200 lbs tubing and 2800 lbs casing pressures. Well had been given production tests in 6500 and 6900-ft sands. **Development and Producing Methods:** 16-in conductor pipe, 140 ft; 10¾-in casing, 1236 ft; 5½-in casing on bottom and perforated. Due to high gas/oil ratio, it is likely that recycling will be resorted to ultimately. **Outlets:** Gas to local market, fluid stripped and sold to local refineries. **Rigs Running July 1, 1939:** None; 1 location staked. **Principal Leaseholders:** R. E. Harding et al, Panatano Petroleum Co., McCollum Exploration Co., Ralph E. Fair, Inc., Pharr-San Juan Oil Co.

MERCEDES

6 mi n Mercedes, Sections 58, 59, 60, 85 and 86 of the n Capisallo District, Llano Grande Grant. **Means of Discovery:** Geophysical information. **Discovery Data:** Union Sulphur Co.'s American Rio Grande Land & Irrigation Co. 3, April 10, 1935, 600 bbls 49.2-gr oil, ¼-in choke; 2200 lbs tubing, 2450 lbs casing pressure; total

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20x8x20	250	1100

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depth 7493 ft, producing horizon 7477-93 ft, elev 60 ft. Recompleted 185 bbls, 2 ½-in chokes, 770 lbs tubing, 850 lbs casing pressure. **Structure:** Domal structure cut by faulting. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Frio, 7500 ft, 49.2- to 61 gr, distillate. Other sands to 9500 ft showing distillate but none produced. **Productive Area:** 1300 acres, 560 oil, 200 gas, 540 undeveloped. **Development to July 1, 1939:** 13 wells, 8 oil, 2 gas, 3 failures. **Expected Ultimate Recovery:** 2,520,000 bbls. **Produced to July 1, 1939:** 161,625 bbls. **Remaining Reserve.** 2,358,375 bbls. **Deepest Hole:** Union Sulphur Co.'s American Rio Grande Land & Irr Co. 11, Dec. 17, 1938, 9618 ft, plugged back and perforated 7430-50 and made distillate producer. It had tested number of sands showing distillate to total depth, apparently in Vicksburg. **Development and Producing Methods:** 16-in, 250 ft; 10¾-in, 2000 ft; producing string through sand and perforated in effort to control gas volume. **Outlets:** Trucks. Gas to Rio Grande System. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Union Sulphur Co. controls block.

MESTINAS

8 mi ne Edinburg, Mestinas Grant. **Means of Discovery:** Geophysical Survey. **Discovery Data:** Gulf States Oil Co.'s Engelman 1, Aug. 1, 1935, 30 bbls 60-gr oil, ¼-in and ⅜-in chokes, 1840 lbs casing pressure; total depth 7508 ft, producing horizon 6658-6748 ft, plugged back 6770 ft, set perforated pipe made 18,000,000 cu ft gas with distillate. **Structure:** Domal type structure. **Elevation:** 90 ft. **Formation, Depth, Gravity:** Frio, 6750 ft, 52- to 60-gr distillate; 7900, ft, 60-gr distillate. **Productive Area:** 2250 acres, 800 distillate, 1450 undeveloped. **Development to July 1, 1939:** 6 wells, 3 oil, 3 failures. **Expected Ultimate Recovery:** 2,000,000 bbls. **Produced to January 1, 1939:** 32,277 bbls. **Remaining Reserve:** 1,967,723 bbls. **Deepest Hole:** Pan American Prod. Corp.'s Juan de la Vina, abnd with junked hole May 18, 1939, 8123 ft. **Development and Producing Methods:** 16-in, 100 ft; 10¾-in, 1750 ft; 5½-in through sand and perforated for production. Recycling project is in evidence. **Outlets:** Pipe line to local refinery. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Gulf States Oil Co., Sun Oil Co., McCollum Exploration Co., Union Sulphur Co., Fohs Oil Co., Pan American Production Corp. **Remarks:** Production estimate includes San Salvador, which likely is an extension 2 miles northwest of this pool rather than a new field. It was opened by Gulf States Oil Co.'s J. Cardenas 1, April 19, 1938, at 8003 ft, perforated 7930-45 ft, flowed 160 barrels of 56-gr white distillate, 6,000,000 cu ft gas, ⅝-in ch, 2670 lbs tubing, 3150 lbs casing pressure.

SAMFORDYCE

Hidalgo and Starr counties, Porciones 38, 39, 40, 41, 99 and 100, ne Samfordyce. **Means of Discovery:** Geological information, geophysical work and showing of dry holes in the immediate vicinity. **Discovery Data:** Otto Wood's Lawrence, Sept. 28, 1934, 500 bbls 20.7-gr oil ⅛-in choke; 400 lbs tubing, 800 lbs casing pressure; producing horizon 2737-53 ft, 6⅝-in casing 2730 ft. Casing commenced leaking when well attempted to blow out and flow gas allowed through opened tubing and casing. The output increasing to 25,000 bbls per day. **Elevation:** 170 to 250 ft. **Formation, Depth, Gravity:** Frio, 2750 ft, 21-gr; 2850 ft, 24-gr; 2950 ft, 24.5-gr, with intermediate lens in same group. On downthrow side of fault, production in Frio, 3450 ft, 25-gr; 3950 ft, 52-gr distillate; Jackson, 5900 ft, 60 distillate; 4125 ft in Vicksburg, 54-gr. **Productive Area:** 2400 acres, 1460 oil, 1000 gas, 450 undeveloped. **Development to July 1, 1939:** 292 wells, 242 oil, 15 gas, 36 failures. **Expected Ultimate Recovery:** 17,520,000 bbls. **Produced to July 1, 1939:** 6,305,275 bbls. **Remaining Reserve:** 10,214,725 bbls. **Deepest Hole:** Phillips Petroleum Co.'s Flores 1, Dec. 3, 1938, 9708 ft, pb and perf 5840-5900 ft, flowed gas and distillate. **Development and Producing Methods:** 10-in at 300 ft, producing string through sand and perforated. Majority of wells on south side of field are making large amounts of water and are on pump. **Outlet:** Valley Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Barnett Petroleum Co., Bridwell Oil Co., Brinkoeter Oil Corp., Lee S. Davis et al, R. S. Dean, Jr., Dean, Davis & Bolling, L. F. Drake Rec., Ralph E. Fair, Inc., Fohs Oil Co., Gem Oil Co., A. T. Gobowski, Trs., K. D. Harrison, Henshaw Bros., Hensley & Ekle, Hill & Hill, Inc., Navarro Oil Corp., Phillips Pet. Co., H. J. Porter, Ernest Powell, Frank Powell, Hiran M. Reed, Showers & Moncrief, Skelly Oil Co., Sun Oil Co., B. F. Weekley, Wheeler & Ware, Windsor Oil Co.

WESLACO

2 mi sw Weslaco, Llano Grande Grant. **Means of Discovery:** Seismograph. **Discovery Data:** Atlantic Refining Co.'s American Rio Grande Land and Irrigation Co. 1, Feb. 6, 1938, 74.59 bbls 51.5-gr distillate per day; ⅝-in choke; 2950 lbs tubing, 3100 lbs casing pressures; producing horizon in Frio, perforated 8634-42 ft with 24 shots; total depth 9182 ft. **Structure.** Anticline. **Elevation:** 82 ft. **Formation, Depth, Gravity:** Frio, 8630 ft, 51.5-gr. Other sands proven but not being produced. **Productive Area:** 160 acres. **Development to July 1, 1939:** 1 oil well. **Expected Ultimate Recovery:** 560,000 bbls, July 1, 1939. **Produced to July 1, 1939:** 1988 bbls; field shut in. **Remaining Reserve:** 558,062 bbls. **Development and Producing Methods:** 16-in casing, 224 ft; 13⅜-in casing, 2402 ft; 7-in casing, 8496 ft; 5-in liner, 8425-9164 ft; perforated to reduce gas/oil ratio. **Outlets:** Trucks to local market. **Rigs Runnings July 1, 1939:** None. **Principal Leaseholder:** Atlantic. **Remarks:** Ed Galt has made operating deal and is to build recycling plant should area develop into satisfactory distillate producer.

JACKSON COUNTY

CORDELE

7 mi n Edna, Peter White Survey. **Means of Discovery:** Geophysics. Reflection seismograph by Gulf Oil Corp. and Magnolia Petroleum Co. **Discovery Data:** Porter & Adams' Foust 1, March 21, 1938, 177 bbls 23.8-gr oil per day; 3/16-in ch; 250 lbs tubing, 325 lbs casing pressure; producing horizon 2650-75 ft, total depth 5177 ft, perforated 2655-60 ft with 10 shots. **Structure:** Nosing and sand lenses. **Elevation:** 99 ft. **Formation, Depth, Gravity:** Miocene, 2650 ft, 23.8-gr. Other sand lense about 2700 ft, but considered to be in same group. **Productive Area:** 850 acres, 420 oil, 160 gas, 270 undeveloped. **Development to July 1, 1939:** 36 wells, 30 oil, 2 gas, 4 failures. **Expected Ultimate Recovery:** 3,024,000 bbls. **Produced to July 1, 1939:** 253,458 bbls. **Remaining Reserve:** 2,770,542 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10 3/5-in casing, 390 ft; 7-in casing set atop sand in most wells which are flowing naturally. **Outlets:** Pipe Line to loading rack at Edna. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Crown Central Petroleum Co., Magnolia Petroleum Co., H. J. Porter et al, Lewis Production Co., Gulf Oil Corp., Humble Oil & Refining Co., Sun Oil Co., Shell Oil Co et al, S. W. Richardson.

EDNA

5 mi nw of Edna, F. Rodriguez & Narcisco surveys. **Means of Discovery:** Geological information. Geophysical work later done to determine structure condition for deeper development. Original discovery credited to surface work. **Discovery Data:** Jackson County Oil Syndicate (Wright Brothers) S. G. Drushell 1, blew out Dec. 18, 1921, ran wild, 2670 ft, estimated 10,000,000 cu ft gas, killed and abnd Jan. 1, 1922, total depth 2670 ft, set 6-in casing 2265 ft, but not cemented; elev 94 ft. **Structure:** Closed domal structure, actual amount of closure in doubt but known to exceed 300 ft and cover an area of about 6000 acres. **Elevation:** 90 to 100 ft. **Formation, Depth, Gravity:** Catahoula, 200 to 2800 ft, several gas sands; Frio 3950 ft, gas; 4650 ft, 46-gr; 4780 ft, distillate, 5350 ft, distillate. **Productive Area:** 6000 acres, 420 distillate, 3500 gas, 2180 undeveloped. **Development to July 1, 1939:** 21 wells, 1 oil, 12 gas, 8 failures. **Expected Ultimate Recovery:** 1,176,000 bbls. **Produced to January 1, 1939:** 19,992 bbls. **Remaining Reserve:** 1,156,008 bbls. Deepest Hole: Steinberger Petroleum Corp.'s S. G. Drushell 1, 7155 ft. **Development and Producing Methods:** 10-in, 250 ft, 5½-in through sand and perforated. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Chicago Gulf Oil Corp., Steinberger Petroleum Corp.

FRANCITAS

5 mi s Francitas, 5 mi e LaWard, John Newell Survey, Abstract 61. **Means of Discovery:** Geophysical. **Discovery Data:** Texas Co.'s Weed 1, Nov. 5, 1938, 89 bbls 61.5-gr distillate, 1,500,000 cu ft gas; 11/64-in ch, 2700 lbs tubing, 2750 lbs casing pressures; producing horizon 7454-68 ft, total depth 7710 ft; plugged back, perforated 7460-65 ft with 14 shots. **Structure:** Faulted anticlinal or terracing structure. **Elevation:** 30 ft. **Formation, Depth, Gravity:** Frio, 7400 ft, 47.5-gr; 7450 ft, 61-gr dist; 8600 ft, 60-gr dist. **Productive Area:** 800 acres, 360 distillate and oil, 440 acres undeveloped. **Development to July 1, 1939:** 7 wells, 5 oil, 2 failures. **Expected Ultimate Recovery:** 2,340,000 bbls. **Produced to July 1, 1939:** 36,202 bbls. **Remaining Reserve:** 2,303,798 bbls. **Deepest Hole:** Mills Bennett's Lowrance 1, July 13, 1939, 9032 ft, pb and perf 8632-42 ft, flowed gas and dist. **Development and Producing Methods:** 10¾-in, 1020 ft; 7-in through sand and perforated. High gas/oil ratio on all wells. **Outlet:** Trucks to local market. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** British American Oil Production Co., Housh & Thompson, Wynn Crosby Drilling Co., The Texas Co., Gulf Oil Corp., Skelly Oil Co., Mills Bennett Production Co.

GANADO

5 mi se Ganado, Section 4 Morris & Cummings Survey. **Means of Discovery:** Geophysical prospect. **Discovery Data:** The Texas Co.'s T. N. Mauritz 1, April 13, 1937, 65 bbls 26.1-gr oil, 1,225,000 cu ft gas, 3/16-in choke, tubing 1625 lbs, casing 1675 lbs, sand 5087-5112 ft. **Structure:** Sand lensing, probably some nosing. **Elevation:** 70 ft. **Formation, Depth, Gravity:** Marginulina, 5100 ft, 26 gravity. **Productive Area:** 60 acres. **Development to July 1, 1939:** 5 wells, 3 oil, 2 failures. **Expected Ultimate Recovery:** 240,000 bbls. **Produced to July 1, 1939:** 21,255 bbls, 5787 bbls recovered first six months, 1939. **Remaining Reserve:** 212,958 bbls, July 1, 1939. **Deepest Hole:** The Texas Co.'s Niebuhr 1, abnd Sept 14, 1937, at 6543 ft in Frio. **Development and Producing Methods:** 10¾-in, 1100 ft, 5-in through sand and perforated. All wells flowing. **Outlet:** Texas Pipe Line Co. **Principal Leaseholder:** The Texas Co.

LOLITA*

Just south of Lolita, centering around George Ewing Survey, e of Lavaca River. **Means of Discovery:** Geophysics by The Texas Co., Stanolind Oil & Gas Co. and Humble Oil and Refining Co. **Development:** L. A. Douglas' Mitchell 1, abnd Jan. 20, 1936, 6047 ft; George Greer & American Liberty Oil Co.'s Davis 1, abnd 6991 ft; Aug. 20, 1937. Humble's Davis 1, abnd June 13, 1938, 6505 ft; The Texas Co.'s Mitchell 1, abnd 6233 ft. **Principal Leaseholder:** Stanolind.

MAURITZ

4 mi s Louise field, Section 33, Morris & Cummings Survey. **Means of Discovery:** Torsion balance, reflection seismograph and subsurface geology based on deep dry hole. **Discovery Data:** Shell Oil Co.'s Combs 1, June 19, 1935, 633 bbls 27.6-gr oil, ¼-in choke, 850 lbs tubing, 900 lbs casing pressure, total depth 5650 ft, sand 5634-50 ft, 7-in 5630 ft, elev 90 ft. **Structure:** Small fault and sand lens. **Elevation:** 90 ft. **Formation, Depth, Gravity:** Frio, 5600 ft, 27.6-gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 8 wells, 2 oil, 6 failures. **Expected Ultimate Recovery:** 340,000 bbls. **Produced to July 1, 1939:** 182,691 bbls. **Remaining Reserve:** 157,309 bbls. **Deepest Hole:** Shell's Mauritz 1, abnd Dec. 13, 1935, 7401 ft in Vicksburg. **Development and Producing**

* Prospect. ‡ Gas field.

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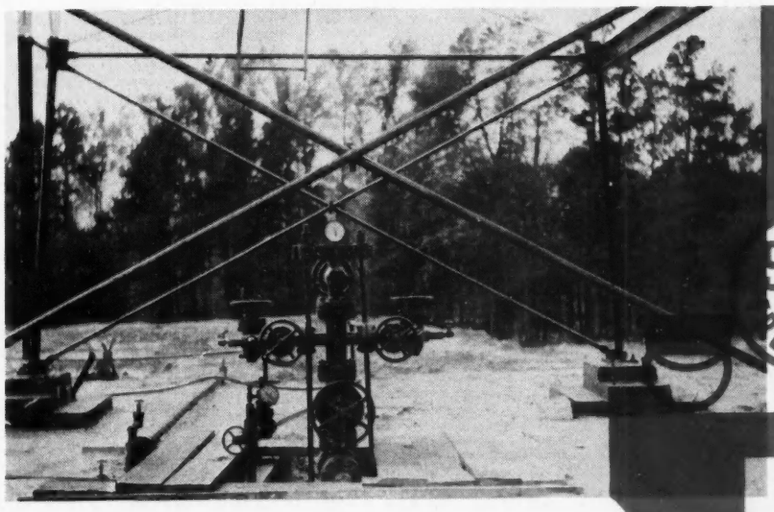

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Methods: 10-in, 1050 ft; 5½-in set through sand and perforated. All wells flowing but make some water. **Outlet.** The Texas Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Shell.

MORALES*

Centering around the county line in the J. Alley League. **Means of Discovery:** Geophysical survey by The Texas Co. **Development:** Texas Co. drilled a test in this area which had shallow gas showing, but abnd. **Principal Leaseholder.** The Texas Co.

TEXANA

4½ mi ne of Lolita, Patrick Scott Survey. **Means of Discovery:** Reflection seismograph survey. **Discovery Data:** Moore & Ahern et al's Drushel 1, Aug. 23, 1939, 7008 ft, producing horizon Frio, distillate sand, 5682-5710 ft, 32 bbls fluid and 2,100,000 cu ft gas per day; 9/64-in ch; 2050 lbs pressure. **Structure:** Domal with some faulting evidenced. Production confined to sand lensing. **Elevation:** 14 ft. **Formation, Depth, Gravity:** Frio, 5680 ft, 51-gr distillate. **Productive Area:** 160 acres. **Expected Ultimate Recovery:** 560,000 bbls, July 1, 1939. **Development and Producing Methods:** 9⅝-in, 818 ft; 5½-in, 5800 ft; perf 5705-08 ft with 10 shots. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Moore & Ahern, Cron & Gracey, Gulf Board Oil Corp., Magnolia Petroleum Co., Sun Oil Co., Mid-Continent Petroleum Co., W. L. Pickens, Sinclair Prairie Oil & Gas Co., Mills Bennett Production Co.

VANDERBILT

⅛ mi se Vanderbilt, Musquez Survey. **Means of Discovery:** Geological information. Among other indications was a 1000-ft artesion well at Vanderbilt which showed gas, and several oil shows in wells by Vanderbilt Petroleum Co. in north central portion of Musquez Survey. **Discovery Data:** Encine Oil & Gas Co.'s Toney 1, May, 1934, 528 bbls 33-gr oil, ¼-in choke, 800 lbs tubing, 900 lbs casing pressure; total depth 5538 ft, producing horizon 5575-82 ft. **Structure:** Sand lenses against fault. **Elevation:** 40 ft. **Formation, Depth, Gravity:** Frio, 5500 ft, 33-gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 5 wells, 1 oil, 4 failures. **Expected Ultimate Recovery:** 180,000 bbls. **Produced to July 1, 1939:** 154,890 bbls. **Remaining Reserve:** 25,110 bbls. **Deepest Hole:** Phillips Petroleum Co.'s Drummond, abnd 7042 ft in Frio, Nov., 1934. **Development and Producing Methods:** 10-in, 1250 ft; producing string atop sand; only well is flowing. **Outlet:** Loading racks at Vanderbilt. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Phillips Petroleum Co. **Remarks:** Vanderbilt is a one-well area. Offsets in several directions to the discovery were failures. Subsequent drilling has extended West Ranch area, and it now appears will merge.

WEST RANCH

3 mi s Vanderbilt townsite, Ramon Musquez Survey, Abstract-59. **Means of Discovery:** Torsion balance and seismograph, trend play. **Discovery Data:** Magnolia Petroleum Co.'s West Ranch 3-a, Aug. 28, 1938, 132.5 bbls 25.2-gr oil per day; 9/64-in ch, 325 lbs tubing, 810 lbs casing pressures; producing horizon 5080-86 ft; total depth 5086 ft. **Structure:** Domal type. **Elevation:** 40 ft. **Formation, Depth, Gravity:** Marginulina 5080 ft, 25.2-gr; Frio, 5500 ft, 33-gr. **Productive Area:** 3500 acres, 1800 oil, 1700 undeveloped. **Development to July 1, 1939:** 14 wells, 11 oil, 3 failures. **Expected Ultimate Recovery:** 32,400,000 bbls. **Produced to July 1, 1939:** 70,595 bbls. **Remaining Reserve:** 32,329,405 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s West 1, abnd March 20, 1938, 8527 ft in Frio topped 5325 ft. **Development and Producing Methods:** 18⅝-in, 120 ft; 13⅜-in, 1305 ft; 7-in atop the sand in most wells. In case of high gas volume indicated on drill-stem test, pipe set through sand and perforations made. All wells flowing. **Outlets:** Magnolia Pipe Line Co. building spur to main line. Some oil now barged, rest to railroad. **Rigs Running July 1, 1939:** 5. **Principal Leaseholders:** Magnolia, Humble Oil & Refining Co., Lonnie Glasscock, Phillips Petroleum Co., Shell Oil Co., Sun Oil Co.

WEST VANDERBILT*

2 mi w of Vanderbilt, in western portion of Ramon Musquez Grant. **Means of Discovery:** Seismograph by Sun Oil Co., Humble Oil & Refining Co. et al. **Development:** Cullen, Frost & Mayo's J. H. Tucker 1, abnd 7473 ft, Aug. 7, 1939; Frio 5106 ft, and several showings encountered below this level. **Principal Leaseholders:** H. R. Cullen, Humble, John G. Mayo, C. M. Frost, Sun.

WHITE-CLAIRE*

7 mi n LaWard, and centering around the middle of White and Claire League. **Means of Discovery:** Seismograph by Humble Oil & Refining Co. **Development:** Temple Hargrove and George Echols' Straus 1, abnd Nov. 12, 1937, 6526 ft; top Discorbis 4746 ft; top sandy shale with gas show 5144 ft, broken sand carrying salt water 5299-5344 ft, sandy shale with oil in top Frio 6274-82 ft. **Principal Leaseholder:** Humble. **Remarks:** This is considered to be one of the outstanding geophysical prospects along the South Texas Gulf Coast.

JIM HOGG COUNTY

ALWORTH

Section 39, nw part of county. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Alworth Drilling Co.'s M. Garza 2, Nov. 23, 1926, 100 bbls 21-gr oil, 10,000,000 cu ft gas; total depth 1025 ft, sand 1020-25 ft; 6⅝-in 1018 ft; elev 488 ft. **Structure:** On monoclinal sand lensing structure. **Elevation:** 490 ft. **Formation, Depth, Gravity:** Upper Jackson series, 1000 ft, 21 gr. **Productive Area:** 650 acres, 80 oil, 570 gas. **Development to July 1, 1939:** 38 wells, 9 oil, 8 gas, 21 failures. **Expected Ultimate Recovery:** 27,297 bbls. **Produced to January 1, 1939:** 27,297 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Simms Oil Co.'s J. B. Leyendecker 1, abnd 2199 ft. **Principal Leaseholder:** Open.

COLORADO

1 mi s Guerra, Section 623. **Means of Discovery:** Geological information. **Discovery Data:** Meek et al's Martinez 1-A, Aug. 6, 1936, 25 bbls 47.4-gr oil, 65 lbs tubing, 185 lbs casing pressure; total depth 3017 ft, producing horizon 3009-17 ft. **Structure:** Likely sand lens on monocline. **Elevation:** 450 to 500 ft. **Formation, Depth, Gravity:** Cockfield, 3000 ft, 47.4 gr. **Productive Area:** 1000 acres, 580 oil, 420 undeveloped. **Development to July 1, 1939:** 13 wells, 5 oil, 7 failures. **Expected Ultimate Recovery:** 3,944,000 bbls. **Produced to January 1, 1939:** 118,422 bbls. **Remaining Reserve:** 3,825,578 bbls. **Deepest Hole:** Meek's Martinez Estate 3-A, Survey 623, abnd 3202 ft, Feb. 16, 1936. **Development and Producing Methods:** 10-in, 200 ft, 5½-in atop sand; all wells flowing naturally or using flow valves. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Humble Oil & Refining Co., K. D. Harrison, J. H. Meek et al, Henshaw Bros.

HENNE-WINCH-FARRIS

Las Animas grant, Surveys 255, 256, 276, El Peyote grant, south of Webb County line and near Zapata County line. **Means of Discovery:** Trend play, geological information. **Discovery Data:** Big Bend Oil Co.'s Marinez 1, June 23, 1924, 60,000,000 cu ft gas, spraying 21-gr oil; total depth 1960 ft, sand 1944-60 ft; elev 639 ft. **Structure:** Sand lensing on fold, shore line proposition. **Elevation:** 640 ft. **Formation, Depth, Gravity:** Hockleyensis zone of the Jackson series, 1960-2100 ft, 21 gr. **Productive Area:** 1160 acres, 730 oil, 430 gas. **Development to July 1, 1939:** 243 wells, 147 oil, 34 gas, 62 failures. **Expected Ultimate Recovery:** 3,431,000 bbls. **Produced to January 1, 1939:** 3,259,208 bbls. **Remaining Reserve:** 171,792 bbls. **Deepest Hole:** Kitselman & St. Albans' R. Holbein 57, Block 40, Survey 17, abnd July 17, 1926, 3546 ft; sand 2398-2402 ft and 2998-3003 ft, tested salt water and gas; elev 706.8 ft. **Development and Producing Methods:** Field near depletion, all wells on pump. **Outlet:** Humble Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** Stover & Burkett.

KELSEY

7 mi se Agua Nueva, San Rafeal grant. **Means of Discovery:** Core drilling and checked with geophysics. **Discovery Data:** Humble Oil & Refining Co.'s Bass 2, Sept. 13, 1938, 164 bbls 44.7-gr oil per day, ½-in choke, 1170 lbs tubing, 1420 lbs casing pressure; producing horizon Vicksburg 4746-54 ft, total depth 4754 ft; perforated 4744-48 ft with 12 shots. **Structure:** Anticline. **Elevation:** 260 ft. **Formation, Depth, Gravity:** Vicksburg, 4740 ft, 44.7 gr. Jackson, 6100 ft, 42 gr. Some doubt as to whether this is Vicksburg or basal Frio. **Productive Area:** 1800 acres, 460 oil, 1340 undeveloped. **Development to July 1, 1939:** 31 wells, 25 oil, 6 failures. **Expected Ultimate Recovery:** 3,910,000 bbls. **Produced to July 1, 1939:** 109,044 bbls. **Remaining Reserve:** 3,800,956 bbls. **Deepest Hole:** Humble's McGill 5, April 4, 1939, flowed 63 bbls 42-gr oil to open new sand. Drilled to 6407 ft, plugged back, perforated 6102-8 ft and flowed through 3/16-in choke with 1050 lbs tubing and 1400 lbs casing pressures. **Development and Producing Methods:** 16⅝-in, 120 ft some wells; 10-in, 1000 ft, 7-in producing string atop sand. All wells on production are flowing and several showing small amount of water. **Outlet:** Humble Pipe Line Co. **Rigs Running, July 1, 1939:** 3. **Principal Leaseholders:** Humble, Sun Oil Co., Magnolia Petroleum Co.

LAS ANIMAS

14 mi w Hebbronville, Las Animas grant. **Means of Discovery:** Geological information. **Discovery Data:** Darby Petroleum Co.'s Holbein 1-B, Oct. 12, 1937, flowed 2 mcf, ½-in choke, 200 lbs tubing and 300 lbs casing pressures; total depth 1789 ft, perforated 1782½-88 ft, sand 1780-89 ft. Holbein 2-B, Dec. 29, 1937, made oil in same sand. **Structure:** Sand lensing along shore line. **Elevation:** 830 ft. **Formation, Depth, Gravity:** Cole sand, Jackson age, 1800 ft, 21 gr. **Productive Area:** 160 acres, 80 oil, 80 gas. **Development to July** 1, 1939: 9 wells, 5 oil, 2 gas, 2 failures. **Expected Ultimate Recovery:** 320,000 bbls. **Produced to July 1, 1939:** 24,083 bbls. **Remaining Reserve:** 295,917 bbls. **Deepest Hole:** Darby Petroleum Co.'s Holbein 1-A, abnd July 3, 1935, 4014 ft. **Development and Producing Methods:** 10-in, 120 ft; 7-in through sand and perforated to cut off gas from above. Majority of production flowing or jetting. **Outlet:** Humble Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholder:** Darby Petroleum Co.

PEYOTE‡

Survey 573, Share 1, northeastern portion of county. **Means of Discovery:** Geological data. **Discovery Data:** Clark & Cowden's Vela 1, Oct. 17, 1932, 8,000,000 cu ft gas; total depth 3209 ft, plugged back to 2140 ft, redrilled to 2263 ft, when first drilled, well showed sand section from 2224-94 ft. **Structure:** Sand lensing similar to remainder to Mirando district. **Elevation:** 750 ft. **Formation, Depth, Gravity:** Government Wells sand of Jackson age, 2250 ft, gas. **Productive Area:** 40 acres. **Development to July 1, 1939:** 4 wells, 1 gas, 3 failures. **Expected Ultimate Recovery:** Gas field, no estimate. **Deepest Hole:** Discovery well. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Majority of acreage unleased.

RANDADO

Including Sections 291, 614, 82, 231, 232, 287, 81, 85, 83, 233, 287, 19, 230, 267, and 415. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Conway et al's Placios 2, April 21, 1926, 1000 bbls, 20.5-gr oil; total depth 1266 ft, sand 1249-55 ft, elev 478 ft. **Structure:** Sand lensing structure with several small local highs. **Elevation:** 450 to 500 ft. **Formation, Depth, Gravity:** Upper Jackson series, 1250 ft, 20.5 gr. **Productive Area:** 1200 acres, 765 oil, 435 gas. **Development to July 1, 1939:** 241 wells, 176 oil, 15 gas, 50 failures. **Expected Ultimate Recovery:** 4,819,500 bbls. **Produced to July 1, 1939:** 4,600,446 bbls. **Remaining Reserve:** 219,054 bbls. **Deepest Hole:** Mount Selman formation tested to 5222

* Prospect. ‡ Gas field.

ft. **Development and Producing Methods:** All wells on pump and majority are making considerable water. **Outlet:** Humble Pipe Line Co. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** C. E. Glasco, Grayburg Oil Co., W. O. Harris, Magnolia Petroleum Co., Pitzer & West, Superior Oil Corp.

JIM WELLS COUNTY

ALFRED

10 mi ne Alice, 1½ mi nw Alfred, T&NO Section 19. **Means of Discovery:** Subsurface geology and geophysics. **Discovery Data:** Rowan & Hope's Adams 1, Feb. 24, 1939, 125 bbls 47.3-gr oil per day, 5/32-in choke; 125 lbs tubing, 340 lbs casing pressures; producing horizon 3223-34 ft, total depth 5509 ft, perforated 3224-29 ft with 10 shots. **Structure:** Faulting and sand lensing. **Elevation:** 193 ft. **Formation, Depth, Gravity:** Frio, 3220 ft, 47.3 gr; 4700 ft, 45.2 gr. Latter sand may be at top of Vicksburg, but more likely basal Frio. **Productive Area:** 320 acres, 120 oil, 80 gas, 200 undeveloped. **Development to July 1, 1939:** 16 wells, 7 oil, 4 gas, 5 failures. **Expected Ultimate Recovery:** 600,000 bbls. **Produced to January 1, 1939:** 46,199 bbls. **Remaining Reserve:** 553,801 bbls. **Deepest Hole:** Edwin M. Jones' Robert Adams 1, abnd 6535 ft. **Development and Producing Methods:** 10-in csg, 240 ft in shallower area, and 700 ft in deep pay sector; 5½-in prod string atop sand. All wells flowing naturally. **Outlet:** Trucks to Phoenix Refining Co. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Rowan & Hope, Lewis Prod. Co., Humble Oil & Refining Co., Arkansas Fuel Oil Co., T. V. Vaughan, R. S. Waldron, Republic Natural Gas Co., Ike W. Howeth, Smith & Storey, Gilcrease Oil Co. **Remarks:** Area to southwest is known as West Alfred, but may be part of the same field.

ALICE

5 mi south of Alice, La Vaca grant. **Means of Discovery:** Geological information. **Discovery Data:** H. H. Howell et al's Frank Lindsay and D. C. Reed 1, April 18, 1939, 177 bbls per day; ¼-in choke, 900 lbs tubing, 1085 lbs casing; producing horizon 5375-5400 ft; total depth 5430 ft, perforated 5375-85 ft with 10 shots. **Structure:** Anticlinal. **Elevation:** 240 ft. **Formation, Depth, Gravity:** Frio, 3500-3600 ft, gas and dist, 1 well 23 gr; 4500 ft, gas; 4800 ft, 43 gr; 5000, 43.5 gr; 5080 ft, dist; 5150 ft, dist; 5200 ft, 43.8 gr; Vicksburg, 5350, 43.8 gr; 5450 ft, 47 gr. **Productive Area:** 1620 acres, 1280 oil, 340 gas. **Development to July 1, 1939:** 78 wells, 65 oil, 2 gas, 11 failures. **Expected Ultimate Recovery:** 11,776,000 bbls. **Produced to July 1, 1939:** 1,008,061 bbls. **Remaining Reserve:** 10,768,939 bbls. **Deepest Hole:** H. H. Howell's Mosser 1, Aug. 23, 1938, 7335 ft. Plugged back to 4788-99 ft and made oil producer. Well was bottomed in Cockfield and showed thick sand section. **Development and Producing Methods:** 10-in csg, 1000 ft, producing string through sand and perforated. Multiplicity of sands requires much coring and electric log run. Wells flowing with many having high gas/oil ratio. Some on east side making salt water. **Outlets:** Southern Pipe Line Co., Railroad loading racks, Crude Oil System, and trucks. **Rigs Running, July 1, 1939:** 2. **Principal Leaseholders:** Blanco Oil Co., Al Buchanan Production Co., Robert Bowles Oil Co., R. B. Bryant, W. G. Coates, H. H. Howell, Lewis Production Co., T. H. McElvain, H. J. Mosser, Pitkin-Goldston Oil Co., Reese & Dunn, Southern Minerals Corp., Southwood Oil Co., Inc., Texas Gulf Producing Co.

ARMAGOSA‡

Sections 88, 89, B. Baldwin and Stanley Welch surveys, 10 mi n Alice. **Means of Discovery:** Geological information. Surface indications and subsurface correlations. **Discovery Data:** Carsil Oil & Gas Co.'s McGill 1, April 9, 1931, 60,000,000 cu ft gas per day; total depth 2689 ft, elev 150 ft; 5-3/16-in csg set 2682 ft, cap 2681-82 ft; well blew in wild, finally controlled, plugged back and abnd. **Structure:** Domal type structure. **Elevation:** 150 ft. **Formation, Depth Gravity:** Discorbis, Heterostegina zone, Oligocene, several sands 2175-2200 ft, gas. **Productive Area:** 1640 acres. **Development to January 1, 1939:** 11 wells, 6 gas, 5 failures. **Expected Ultimate Recovery:** Gas field, no estimate. **Deepest Hole:** Smith & Storey's M. E. Dilworth 1, drilled to 6115 ft, 2328-32 ft, gas, Jan. 5, 1935. Later, Smith & Storey and Tom Graham's Rowena Shaeffer 1-A, 1 mi n of field, was abnd 6315 ft, Sept. 12, 1939, in Yegua. **Development and Producing Methods:** Due to fact that prospect has been explored for deeper production, 10-in at 650 ft, 5½-in through sand and perforated after plug-back job. **Outlet:** United Gas System. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Smith & Storey, Tsesmelis & Reese, Tom Graham.

BENTONVILLE-KING

1 mi n Bentonville, in Jim Wells and Nueces counties, Sections 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, Richard King Farm Lots subdivision. **Means of Discovery:** Geological information. Topographical high, which is also a inlier of Lissie gravel in the Beaumont clay formation, indicating a surface structure. Oil development followed further geophysical work plus subsurface geological work and drilling of several dry holes. **Discovery Data:** Stanolind Oil & Gas Co. et al's King 1, April 16, 1932, 40,000,000 cu ft dry gas, tubing pressure 1100 lbs, casing 1300 lbs, total depth 3899 ft; 7-in casing 3888 ft, sand 3893-99 ft; elev 142 ft. **Structure:** No Definite information available. There are a number of sand lenses on an anticlinal structure, probably some faulting. **Elevation:** 140 ft. **Formation, Depth, Gravity:** On west side of field, commonly known as Bentonville, gas sands are in Discorbis-Heterostegina zone, 3800-4000 ft, Frio, 5400 ft; 39.6 gr; Vicksburg, 5680 ft, 42-gr. On east side, or Richard King area: Discorbis-Heterostegina, 3800-4000 ft gas, with oil on flank 4000-ft sand; Frio, 5250 ft, 37 gr; 5400 ft, 39 gr; Vicksburg, 6140 ft, 38 gr. **Productive Area:** 3650 acres, 720 oil, 2000 gas, 930 undeveloped. **Development to July 1, 1939:** 58 wells, 31 oil, 13 gas, 14 failures. **Expected Ultimate Recovery:** 6,840,000 bbls. **Produced to July 1, 1939:** 616,021 bbls. **Remaining Reserve:** 6,223,989 bbls. **Deepest Hole:** In Bentonville sector, Texon Royalty and Lucey Petroleum Co.'s Dodd 1, Section 15, King Farm Lots, to 6500 ft, gas, June, 1936, shut in pressure 1625 lbs, perforations made in 4000-ft sand. In Richard King sector, Southern Minerals Corp.'s Richard King 1, abnd June 28, 1937, at 7564 ft. **Development and Producing Methods:** 10-in, 1050 ft; 5- and 7-in through sand and perforated. Practically all wells flowing naturally. Several on jet and making small amounts of water. **Outlets:** Texita Pipe Line Co., Southern Pipe Line Co. **Rigs Running, July 1, 1939:** 3. **Principal Leaseholders:** Damascus Corp., Sultex Oil Co., Stanolind Oil & Gas Co., Southern Minerals Corp. **Remarks:** Includes Bentonville and Richard King areas, sometimes referred to as separate pools.

BLUCHER‡

Southeast cor of county, Mrs. L. Best Survey 362-A. **Means of Discovery:** Reflection seismograph by Shell Oil Co. **Discovery Data:** Shell Oil Co.'s Von Blucher 1, Jan. 27, 1939, 1,300,000 cu ft gas, 36 bbls 53-gr dist per day; 3/64-in ch, 3600 lbs tubing; producing horizon 7500-59 ft; total depth 7845 ft, sidetracked 7576 ft, perforated 7555-60 ft with 10 shots. **Structure:** Anticlinal. **Elevation:** 140 ft. **Formation, Depth, Gravity:** Vicksburg, 7500 ft, 53 gr dist. **Productive Area:** 160 acres. **Development:** New field. **Deepest Hole:** Shell Oil Co.'s Von Blucher 2, abnd June 6, 1939, 8004 ft. **Development and Producing Methods:** 16-in, 150 ft; 10¾-in, 1275 ft; 7-in, 7330 ft; 5-in liner, 7575 ft; excess of 4000 lbs bottom-hole pressure, 7560 ft. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Shell, Magnolia Petroleum Co., Sinclair Prairie Oil & Gas Co., Sun Oil Co., The Texas Co., Humble Oil & Refining Co., Dan Auld.

CAMADA

3 mi se of San Diego, Reserved Townsite of Springfield out of Section 8, Plummer resubd. of Camada Ranch. **Means of Discovery:** Trend drilling and geological survey. **Discovery Data:** Parr and Delaney Oil Co.'s Hoffman 1, May 28, 1939, 33.10 bbls 46.4-gr oil per day, 3/32-in ch; 150 lbs tubing, 1500 lbs casing pressure; producing horizon 5627-37 ft, total depth 5804 ft, perforated 5628-40 ft with 40 shots. **Structure:** Sand lenses. **Elevation:** 287 ft. **Formation, Depth, Gravity:** Hockleyensis, 5625 ft, 46.4-gr. **Productive Area:** 160 acres, 10 oil, 80 gas, 150 undeveloped. **Development to July 1, 1939:** 3 wells, 1 oil 1 gas, 1 failure. **Expected Ultimate Recovery:** 40,000 bbls. **Produced to July 1, 1939:** 768 bbls. **Remaining Reserve:** 39,232 bbls. **Deepest Hole:** H. H. Howell's Hoffman 1, July 1, 1939, at 7041 ft, plugged back and perforated 5530-40 ft, made distillate well. **Development and Producing Methods:** 10¾-in, 500 ft; 5½-in through sand and perforated. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Tom Graham, Gus Tsesmelis, Parr and Delaney Drlg. Co., H. H. Howell, Houston Oil Co., Arkansas Fuel Oil Co., Sun Oil Co., John F. Camp, Willis Storm, Lundell Producing Co.

BANDERA‡

11 mi sw Ben Bolt, near Duval County line, Sh 5-B, La Anima Sola Grant, Abstract 545. **Means of Discovery:** Geophysical survey and trend drilling. **Discovery Data:** Magnolia Petroleum Co.'s de Valades 1, Aug. 2, 1938, 40,000,000 cu ft dry gas per day; 3550 lbs tubing, 3635 lbs casing pressures; producing horizon 6408-15½ ft, total depth 6419 ft. **Structure:** Faulted anticline. **Elevation:** 256 ft. **Formation, Depth, Gravity:** Jackson, 6405 ft, dry gas. **Productive Area:** 1000 acres, 40 distillate, 40 gas, 920 undeveloped. **Development to July 1, 1939:** 2 wells, 1 distillate, 1 gas. **Expected Ultimate Recovery:** 80,000 bbls. **Produced to July 1, 1939:** 106 bbls. **Remaining Reserve,** 79,894 bbls. **Deepest Hole:** Magnolia's de Garcia 1, Nov. 8, 1938, 8302 ft, plugged back and perforated 6422-28 ft, made distillate producer. **Development and Producing Methods:** 18⅝-in conductor pipe; 13⅜-in, 851 ft; 7-in through sand and perforated. High gas volume with small amount distillate. **Outlet:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Magnolia, Humble Oil & Refining Co., W. Earl Rowe, Sun Oil Co., Tidewater Associated Oil Co., Lundell Producing Co., Anderson & Prichard Oil Co.

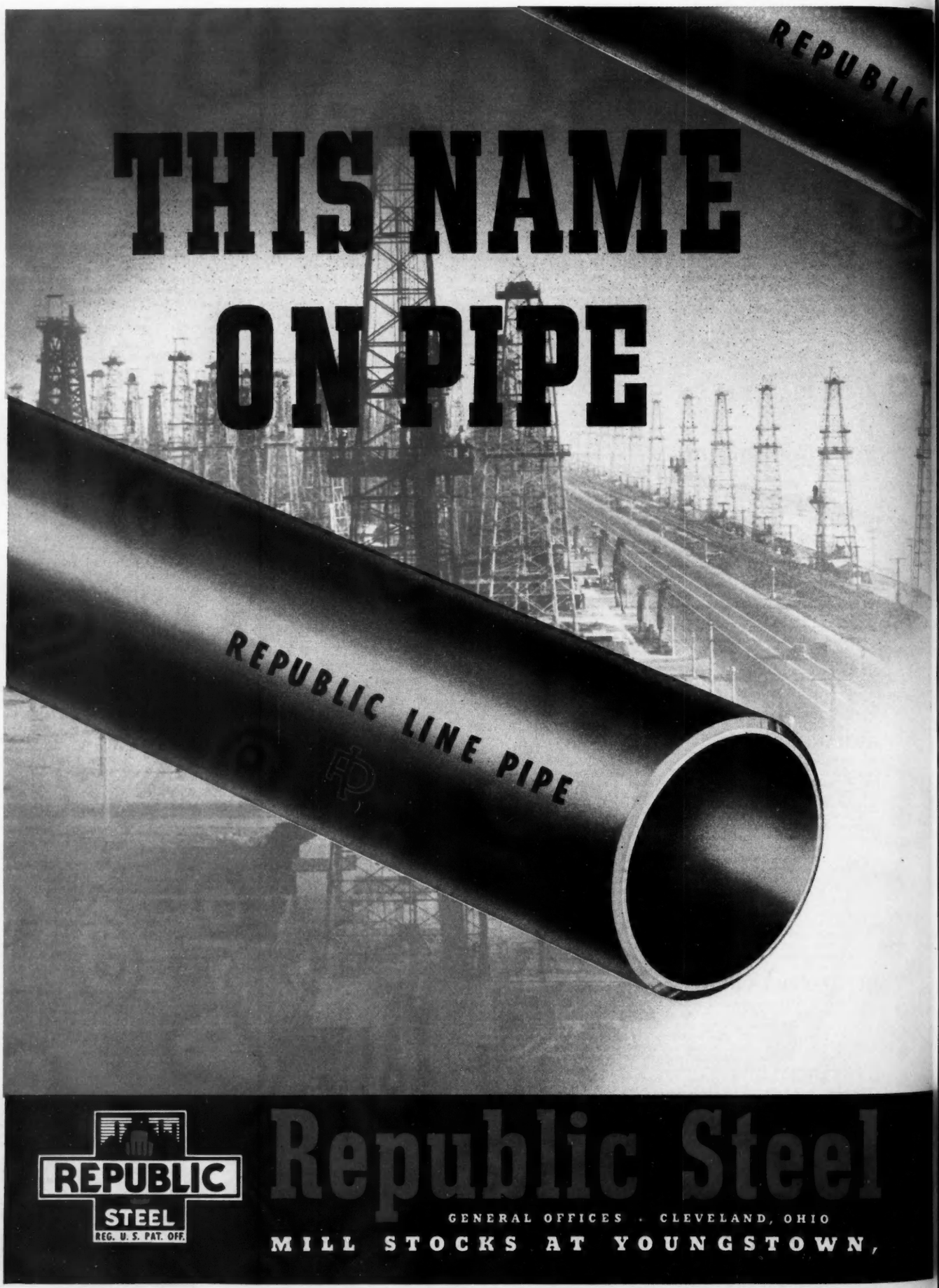
BEN BOLT

1½ mi sw Ben Bolt, La Trinidad Grant. **Means of Discovery:** Combination of trend drilling and geophysical survey. **Discovery Data:** Bridwell Oil Co.'s Smith 1, May 24, 1939, 145 bbls 39.7-gr oil per day; ⅛-in choke; 875 lbs tubing and 100 lbs casing pressures; producing horizon 5231-41; total depth 5251 ft; perforated 5242½-46½ ft. **Structure:** Anticlinal. Nosing on general structure constituting the Alice group. **Elevation:** 196 ft. **Formation, Depth, Gravity:** Frio, 5230 ft, 39.7-gr; Vicksburg (?), 5380 ft, gas. **Productive Area:** 750 acres, 80 developed. **Expected Ultimate Recovery:** 920,000 bbls, July 1, 1939. **Produced to July 1, 1939:** 9848 bbls. **Remaining Reserve:** 910,152 bbls. Deepest Hole: Graham Bros.' Perales 1, Aug. 8, 1939, 5467 ft, plugged back and opened new gas sand through perforations 5383-86 ft. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Bridwell Oil Co., Magnolia Petroleum Co., H. H. Howell, J. C. Hawkins, Henderson Coquat, Lundell Producing Co., Humble Oil & Refining Co., Earl Callaway and Reese and Dunn, H. J. Mosser, P. B. Bryant.

CLARK-MUIL

1½ mi e of Alice field and 5 mi se of Alice townsite, Marcellino Lopez "Los Presenos" Grant. **Means of Discovery:** Reflection seismograph, by Humble Oil & Refining Co. Also wells were drilled on basis of geophysical work, regional and local geology, both surface and subsurface. **Discovery Data:** Gravis & Doran's Clark 1, March 23, 1939, 16 bbls 60-gr dist per day; 9/64-in choke, 1450 lbs working pressure on tubing, 1850 lbs closed in pressure on casing, producing horizon Frio sandy shale and sand, 4795-4805 ft, 4805-35 ft, total depth 5330 ft, perforated 4795-4814 ft with 16 shots. **Structure:** Correlations with wells in general area indicate that this is a nosing apparently off the main feature controlling the Alice field production. **Elevation:** 191 ft. **Formation, Depth, Gravity:** Frio, 4800 ft, distillate, 60-gr; Frio, 5300 ft, oil, 39.7-gr. **Productive area:** 420 acres, 40 oil, 120 gas, 260 undeveloped. **Development to July 1, 1939:** 8 wells, 3 oil, 1 gas, 4 failures. **Expected Ultimate Recovery:** 300,000 bbls. **Pro-**

* Prospect. ‡ Gas field.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TONCAN* IRON ENAMELING STOCK (For service stations)

* Reg. U. S. Pat. Off.

Corporation

OHIO AND HOUSTON, TEXAS

UNION DRAWN STEEL DIVISION
BERGER MANUFACTURING DIVISION
NILES STEEL PRODUCTS DIVISION
TRUSCON STEEL COMPANY
STEEL AND TUBES, INC.

duced to July 1, 1939: 6886 bbls. **Remaining Reserve.** 293,114 bbls. **Deepest Hole:** Tom Graham's Adams 1, 5850 ft, abnd March 23, 1939, after testing salt water through perforations. **Development and Producing methods:** 10-in surface casing, 600 ft; 5½-in, 5330 ft, perforated 4795-4814 ft with 16 shots in discovery well. Other tests set casing atop or through sand and perforated in 5300-ft zone. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Gravis & Doran, Shell Oil Co., Henshaw Bros., Barnsdall Oil Co., Tom Graham, Humble Oil & Refining Co., Ramsey Oil Co., Bowles et al, Al. Buchanan Prod. Co. **Remarks:** This area is immediately east of East Alice and cut off by faulting. It is considered by some to be part of the East Alice field.

EAST ALICE

2½ miles sw Alice. La Vaca grant. **Means of Discovery:** Geological information. **Discovery Data:** Presnall & Mosser's Mortgage Investment Co. 1, April 15, 1938, 2,800,000 cu ft gas, 4 bbls distillate per day; 3/16-in ch, 1350 lbs tubing, 1400 lbs casing pressures; producing horizon 3480-96 ft, perforated 3491-94 ft with 20 shots, later gauged considerable 38-gr oil. **Structure:** Anticlinal. **Elevation:** 209 ft. **Formation, Depth, Gravity:** Frio, 3480 ft, 38 gr; 4680 ft, 54 gr dist.; 5150 ft, 56-gr distillate; 5300 ft, several lenses in group, 44-gr crude and 56-gr distillate. 5300-ft zone likely in Vicksburg. **Productive Area:** 1350 acres, 480 oil, 300 gas, 570 undeveloped. **Development to July 1, 1939:** 35 wells, 29 oil, 4 gas, 2 failures during first six months 1939. **Expected Ultimate Recovery:** 4,176,000 bbls. **Produced to July 1, 1939:** 131,159 bbls. **Remaining Reserve:** 4,044,841 bbls. **Deepest Hole:** Tom Graham Oil Co.'s Hirsch 1, Dec. 28, 1938, 5760 ft, plugged back and made distillate well through perforations 4628-33 ft. **Development and Producing Methods:** 10¾-in 1000 ft, 5½-in through sand and perforated. Multiple-sand field required considerable coring. All wells flowing and several making some water. Recycling method of production in 5100-foot distillate sand now projected. **Outlets:** Humble Pipe Line Co., loading racks, trucks. **Rigs Running July 1, 1939:** 4. **Principal Leaseholders:** Frank J. Gravis, H. J. Mosser, Calloway & Mathews, R. L. Reese and I. H. Dunn, Southern Minerals Corp., Fred W. Shield, Tom Graham Oil Co., Pan American Prod. Corp., H. H. Howell, R. B. Bryant Est., Magnolia Petroleum Co., Royal Oil Corp., Pat Rutherford, Humble Oil & Refining Co., Shell Oil Co., Ramsey et al, Henshaw Brothers, Osborn & Fleet, Atlantic Refining Co., Al Buchanan.

LA GLORIA

2 mi sw La Gloria, Block 10, Los Olmos y Loma Blanco "Ignacio de la Pena",gr. **Means of Discovery:** Torsion balance worked by Magnolia Petroleum Co. and reflection seismograph by Ohio Oil Co. and Magnolia. **Discovery Data:** Magnolia's Maun 1, March 23, 1939, 165 bbls 60-gr dist. and 5,646,000 cu ft gas per day; 5/16-in. ch; 2125 lbs tubing, 2250 lbs casing pressure; producing horizon 6533-98 ft; total depth 7545 ft; plugged back to 7088 ft; perforated 6560-70 ft with 18 shots. **Structure:** Domal type of structure with production controlled by sand lensing. **Elevation:** 141 ft. **Formation, Depth, Gravity:** Frio, 6590 ft, 60 gr.; probably Vicksburg, 7320 ft, 27.3 gr. **Productive Area:** 1200 acres, 160 distillate, 1040 undeveloped. **Development to July 1, 1939:** 1 distillate producer. **Expected Ultimate Recovery:** 560,000 bbls. **Produced to July 1, 1939:** 1955 bbls. **Remaining Reserve:** 558,045 bbls. **Development and Producing Methods:** 13⅜-in, 2000 ft; 7-in, 6500 ft for protection; 5-in through sand and perforated. Multiple-sand area with high gas volume. Recycling of condensate zones likely. **Outlets:** Trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Magnolia, Ohio Oil Co., Sun Oil Co., Shell Oil Co., Sinclair Prairie Oil Co., Tide Water Associated Oil Co., Phillips Petroleum Co.

MAGNOLIA CITY

7½ mi se Alice, Blk. 24, AB&M Survey. **Means of Discovery:** Reflection seismograph and geophysical work by Shell Oil Co. **Discovery Data:** F. A. Gillespie & Sons' Shear 1, April 30, 1939, 108.27 bbls 43.8-gr oil per day, ½-in ch, 1500 lbs tubing and 2025 lbs casing pressure, producing horizon 5436-48 ft, total depth 6592 ft, sidetracked 5486 ft; perforated 5439-46 ft with 36 shots. **Structure:** Anticlinal. **Elevation:** 162 ft. **Formation, Depth, Gravity:** Frio, 5440 ft, 43.8 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 1 oil, 1 failure. **Expected Ultimate Recovery:** 120,000 bbls. **Produced to July 1, 1939:** 6249 bbls. **Remaining Reserve:** 113,751 bbls. **Development and Producing Methods:** 10¾-in 550 ft, 5½-in 5486 ft, perforated for production. Only one well and it is flowing. **Outlets:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Magnolia Petroleum Co., Shell Oil Co., F. A. Gillespie & Sons.

PREMONT

Centering around Section 71, near town of Premont. **Means of Discovery:** Torsion balance and seismograph. Survey indicated possible deep-seated salt dome, some faulting evidenced. **Discovery Data:** Magnolia Petroleum Co.'s Seeligson 2, April 5, 1933, 288 bbls fluid, 30 percent sw and 15,000,000 cu ft gas, ⅛-in choke, 800 lbs tubing, 900 lbs casing pressure, total depth 3255 ft, producing horizon 3247-55 ft. **Structure:** Domal type structure with series of sand lenses, producing area likely rather spotted. **Elevation:** 160 ft. **Formation, Depth, Gravity:** Catahoula 2250 ft, 2350 ft, 3150 ft, 3250 ft, 20-gravity. All sands also show gas. **Productive Area:** 1000 acres, 600 oil, 400 gas. **Development to July 1, 1939:** 63 wells, 37 oil, 8 gas, 18 failures. **Expected Ultimate Recovery:** 3,000,000 bbls. **Produced to July 1, 1939:** 518,157 bbls. **Remaining Reserve:** 2,481,843 bbls. **Deepest Hole:** Magnolia's Seeligson 6, abnd 7135 ft in heaving shale, August 6, 1934. **Development and Producing Methods:** 10-in 50 ft, producing string through sand and perforated to cut off water lenses and control gas ratio. Part of wells flowing naturally, others jetting. Several pump units operating. **Outlet:** Tom Graham has pipe line to railroad loading racks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** C. C. Glasscock, Morris Gouger, Tom Graham, J. T. Graham, Rec. (Ray Martin), Miss Tex Oil & Gas Co., L. L. Nichols, Mosser & Pressnall. **Remarks:** Tom Graham (was R. A. Graddy et al) F. Bennett 1, Lot 87, Sec. 76, Haldeman subdivision 2 mi w field elev 221 ft, ground completed Oct. 8, 1936, for 125 bbls oil daily on 3/16-in choke, tubing pressure 440 lbs, casing pressure 860 lbs, sand 2340-2350 ft, 50 percent of flow fresh water. This well opened an area to the west referred to as West Premont. It is considered to be one field.

REYNOLDS

3 mi ne Alfred, San Antonio de Agua Dulce grant, Abstract 249. **Means of Discovery:** Trend drilling and geological information. **Discovery Data:** Texas Gulf Producing Co.'s Miller 1, June 24, 1939, 22 bbls 37.4-gr oil in 12 hrs, 5/64-in ch, 1500 lbs tubing, 2000 lbs casing pressures, producing horizon 5094-5155 ft, total depth 5617 ft, perforated 5143-49 ft with 26 shots. **Structure:** Lenticular situation on a regional geological feature. **Elevation:** 150 ft. **Formation, Depth, Gravity:** Frio, 4820, 31 gr; 5100 ft, 41 gr; 5150 ft, 37.4 gr. It is possible that the bottom sand is at the top of the Vicksburg. **Productive Area:** 20 acres. **Development to July 1, 1939:** 1 oil, 1 failure. **Expected Ultimate Recovery:** 180,000 bbls. **Produced to July 1, 1939:** 1001 bbls. **Remaining Reserve:** 178,999 bbls. **Deepest Hole:** Rand Morgan's Fee 1-G, abnd 6000 ft, Sept. 6, 1939. **Development and Producing Methods:** 10¾-in 980 ft; 5½-in through sand and perforated. All wells flowing naturally. **Outlets:** Southern Pipe Line Co. **Rigs Running July 1, 1939:** 5. **Principal Leaseholders:** Rand Morgan, Texas Gulf Producing Co., Smith & Mowinkle, Mid-Continent Oil Corp., H. J. Mosser, Reese & Dunn, Gus Tsesmelis, Nelson Bros., Tom Graham, Pitkin-Goldston Oil Co.

SANDIA

2 mi nw Sandia, W. D. Wade Ranch, Casa Blanca Grant. **Means of Discovery:** Surface and subsurface geology. **Discovery Data:** Laredo Gas & Petroleum Co.'s Wade 1, Nov. 20, 1929, 50,000,000 cu ft gas, 3/16-in choke, 1050 lbs tubing, 1300 lbs casing pressure, total depth 2917 ft, elev 149 ft. **Structure:** Elongated low anticline cut to nw by fault, with 70-ft displacement. **Elevation:** 150 ft. **Formation, Depth, Gravity:** Catahoula, 2900 ft, gas; Frio, 4100 ft, 41.5 gravity; Jackson (likely Cole sand) 5150 ft, 52 gravity. **Productive Area:** 480 acres, 80 oil, 400 gas. **Development to July 1, 1939:** 24 wells, 6 oil, 3 gas, 15 failures. **Expected Ultimate Recovery:** 360,000 bbls. **Produced to July 1, 1939:** 18,173 bbls. **Remaining Reserve:** 341,827 bbls. **Deepest Hole:** Smith Drilling Co.'s W. D. Wade 1, 5701 ft. **Development and Producing Methods:** 10-in 600 ft, 5½-in through sand and perforated. High gas volume in several sands has proved unruly in development of oil possibilities. **Outlets:** Loading racks. Gas to United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Calvin & Calvin, O. W. Killam, Smith Drilling Co., J. E. Walsh.

SAN DIEGO‡

3 mi e San Diego, Share 3, Diego Grant. **Means of Discovery:** Geological information. **Discovery Data:** Roger Putnam et al, Hawkins 1, Dec. 2, 1934, 10,000,000 cu ft gas, ½-in choke, 1200 lbs tubing, 1260 lbs casing pressure, 2976 ft, producing horizon 2963-76 ft, elev 290 ft (closed-in pressure 1260 lbs.) **Structure:** Anticline. **Elevation:** 290 ft. **Formation, Depth, Gravity:** Frio, 2950 ft, gas. **Productive Area:** 320 acres gas. **Development to July 1, 1939:** 3 wells, 2 gas, 1 failure. **Deepest Hole:** Houston Oil Co. et al's Hawkins 2, block 11, Putnam Subd., San Diego gr, elev 309 ft derrick floor; drilled to 6480 ft, completed as gasser in sand 2952-57 ft through perforations in 7-inch casing set at 3025 ft, May 25, 1936. H. H. Howell's Hawkins, northeast of field, abnd 6789 ft. **Outlet:** Houston Pipe Line Co. **Principal Leaseholder:** Houston Oil Co.

WADE CITY

3 mi northwest of Orange Grove, J. Poitevent Survey 1. **Means of Discovery:** Reflection seismograph by Arkansas Fuel Oil Co., plus geological study. **Discovery Data:** Hunter et al's Pundt 1, July 12, 1939, 30 bbls 47.7-gr distillate and 3 million cu ft gas per day; ¼-in ch, 1850 lbs tubing, 1900 lbs casing pressures; producing with horizon 4778-4820 ft, total depth 5411 ft, plugged back 4897 ft, perforated 4794-98 ft, 11 shots. **Structure:** Sand lensing. **Elevation:** 204 ft. **Formation, Depth, Gravity:** Basal Frio, 4775 ft, 47.7 gr. **Productive Area:** 40 acres. **Expected Ultimate Recovery:** 180,000 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in 164 ft, 7-in 4771 ft, 5-in liner through sand. **Outlets:** None. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** W. Earl Rowe, Atlantic Refining Co., O. W. Killam, Arkansas Fuel Oil Co., Anderson-Prichard Oil Co., Amerada Pet. Corp., Shell Oil Co.

KARNES COUNTY

BURNELL

James Johnson, A. Germany, A. Storey, J. H. Clark surveys, 2 mi e Burnell. **Means of Discovery:** Geological information, trend play, geophysical work: **Discovery Data:** Norton & Marr et al's Choate 1, Nov. 19, 1934, 30,000,000 cu ft gas, 1425 lbs shut-in pressure, total depth 3550 ft, sand 3299-3327 ft, shale 3327-30 ft, sand 3330-42 ft, elev 382 ft. **Structure:** Folding and faulting. **Elevation:** 380 ft. **Formation, Depth, Gravity:** Cockfield (Pettus), 3300 ft gas. **Productive Area:** 1320 acres, 20 distillate, 1300 gas, 1300 undeveloped. **Development to July 1, 1939:** 14 wells, 1 distillate, 7 gas, 6 failures. **Expected Ultimate Recovery:** 10,000 bbls. **Produced to July 1, 1939:** 1838 bbls. **Remaining Reserve:** 8152 bbls. **Deepest Hole:** Luling Oil & Gas Co.'s W. W. Boyce 1, abnd 3741 ft, May 27, 1935. **Development and Producing Methods:** 10-in

* Prospect. ‡ Gas field.

How Haystellite Inserts and Tube Rod *cut drilling costs*

THE bit shown at the right drilled 2,506 feet of out-to-gauge hole in the East Texas field. This bit went in at 100 feet, just below the surface pipe, and completed the well, making 2,441 feet of shale and shells, 25 feet of broken chalk and 40 feet of Pecan Gap chalk. It was well fingered and in excellent condition when pulled. The bit was hard-set with Haystellite inserts and hard-faced with Haystellite tube rod.

Variety of Sizes Available

Haystellite inserts are made in twelve sizes and seven cross sections. Haystellite tube rod, used for hard-surfacing the bit after it has been hard-set with Haystellite inserts, is available in five sizes of rod containing eight different screen sizes of tungsten carbide particles. Therefore, bit dressers can select the best combination of inserts and tube rod for each bit.

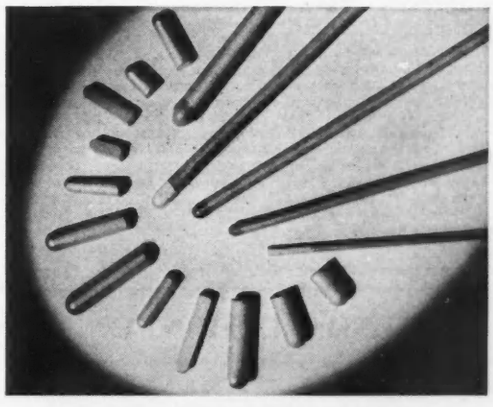
More Footage per Round Trip

Bits dressed with Haystellite tungsten carbide products cut drilling costs because they drill more footage of out-to-gauge hole per round trip—and take less time to do it. Write for the 36-page book, "Haynes Stellite Products in the Oil Fields," which tells when and how to use these products for best results.

FORMATIONS DRILLED

Shale and Shells .	2,441 feet
Broken Chalk . .	25 feet
Pecan Gap Chalk .	40 feet

2,506 feet with one bit.



Haystellite inserts and Haystellite tube rod are shown about one-third actual size.

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See the display of valves hard-faced with Haynes Stellite alloy for use in corrosive and erosive service at Area L-305, National Metal Exposition, International Amphitheatre, Chicago, October 23-27, 1939.

200 ft, 5½-in atop sand. **Outlets:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Lonnie Glasscock, Magnolia Petroleum Co., Marr & Norton, United Producing Co., American Liberty Oil Co.

GREEN*

Between Green and Burnell, southwestern portion of Carlos Martinez grant. **Means of Discovery:** Geological information and trend drilling on apparent surface faulting. **Development:** Fort Bend Oil Co.'s Newberry 1, Oct. 14, 1930, encountered sand at 2964-75 ft which developed 700 lbs gas pressure on 4-minute drill-stem test through ¾-inch choke, 6⅝-in csg 2958 ft. Made a little gas, but when deepened slightly developed salt water. Luling Oil & Gas Co.'s Holmes 1, 2 mi s Green in Carlos Martinez sur, abnd 3302 ft, Oct. 13, 1936, topped Pettus 2804 ft, good oil show but had only little sandy shale. Several other wells were drilled in the immediate vicinity, but failed to produce.

NORTH PETTUS

In corner of Karnes-Goliad-Bee Counties, W. J. Porter, George Habbermacher, Brooks & Bruleson, Nos. 23 and 25, Javiano Gomez, Porter State E. Talley. **Discovery Data:** Morgan et al's McKinney 1, April 23, 1930, 20,000,000 cu ft gas, spraying distillate, total depth 3891 ft, sand 3881-91 ft; casing 1500 lbs, tubing pressure 1000 lbs. 6⅝-in 3880 ft. United Production Co.'s G. A. Ray 47, Nov. 16, 1934, 10,000,000 cu ft gas spraying small quantity oil, tubing 125 lbs, casing 150 lbs; total depth 3958 ft, sand 3932-45 ft and 3945-58 ft, 7-in casing 3950 ft, elev 386 ft. This well opened Yegua sand production on the western side of the field. Since that time, however, production in same horizon has been proved on the eastern side of the field which is oil. **Structure:** Sand lenses backed up against several faults, well broken by cross faults. **Elevation:** 400 ft. **Formation, Depth, Gravity:** Cockfield in Jackson series, locally called Pettus sand, 3600-3800 ft, 42 gravity; Yegua 3800-3900 ft, 44 gravity. **Productive Area:** 1360 acres, 1020 oil, 340 gas. **Development to July 1, 1939:** 129 wells, 101 oil, 11 gas, 17 failures. **Expected Ultimate Recovery:** 8,772,000 bbls. **Produced to July 1, 1939:** 3,217,707 bbls. **Remaining Reserve:** 5,554,293 bbls. **Deepest Hole:** Moody-Seagraves Oil Corp.'s C. W. Boyce 1, abnd 5259 ft. **Development and Producing Methods:** 10-in 350 ft, 7-in atop sand; most of wells are pumping and making considerable salt water. **Outlets:** Atlantic Pipe Line Co., Houston Pipe Line Co., Pettus Refining Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Union Producing Co., Houston Oil Co., West Virginia Gas Corp., Sun Oil Co., Magnolia Petroleum Co.

SOUTH BURNELL

1⅛ mi ne Burnell. **Means of Discovery:** Geological information and trend play. **Discovery Data:** Pettus Oil & Refining Co.'s McKinney 1-a, July 25, 1937, 314 bbls 45.1-gr oil per day through ¼-inch choke; producing horizon Pettus sand, 3648-53; pressures, 350 tubing, 420 casing, total depth 3653 ft. **Structure:** Sand lensing against fault. **Elevation:** 410 ft. **Formation, Depth, Gravity:** Pettus, 3645 ft, 45-1 gravity. **Productive Area:** 400 acres, 360 oil, 40 gas. **Development to July 1, 1939:** 41 wells, 34 oil, 2 gas, 5 failures. **Expected Ultimate Recovery:** 2,952,000 bbls. **Produced to July 1, 1939:** 589,563 bbls. **Remaining Reserve:** 2,362,437 bbls. **Deepest Hole:** Morgan et al (Boise), McKinney 1, abnd 5280 ft, apparently in Cook Mountain. **Development and Producing Methods:** 10-in 300 ft; producing string at top of pay, all wells flowing. **Outlets:** Atlantic Pipe Line Co., Pettus Oil & Refining Co. **Principal Leaseholders:** Pettus Oil & Refining Co., Luling Oil & Gas Co., Dirks Bros.

KENDALL COUNTY

SISTERDALE

3½ miles east of Sisterdale townsite, J. F. Torrey Survey No. 781. **Means of Discovery:** Surface geology. Subsequent geological work by Dilworth S. Hager and L. B. Snider. **Discovery Data:** Sterling et al's Werner 1, March 17, 1930, 20 bbls 31-gr oil and some water at 975 ft, producing formation 954-75 ft in sandy limestone, elev 1387 ft. **Structure:** Narrow anticline with faulting apparent. Downthrow indicated to be to south and has beetween 200 and 300 ft of displacement. **Elevation:** 1390 ft. **Producing Formation, Depth, Gravity:** Basal Pennsylvanian or top of Ordovician, 910 ft, 23.2 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 11 wells, 3 oil, 8 failures. **Expected Ultimate Recovery:** 3486 bbls. **Produced to Jan. 1, 1939:** 3486 bbls, none first six months 1939. **Remaining Reserve:** Depleted. **Deepest Hole:** A. S. Monwinkle et al's Kaston 1, abnd 1543 ft in Ordovician, Oct. 24, 1930. **Development and Producing Methods:** Cable tools used for drilling, requiring several strings of pipe. 6⅝-in set atop pay and acidized. Well completed on pump. **Principal Leaseholders:** E. A. Graham et al, Millican & Norman, L. S. Carpenter, Herbert W. Reed.

KENEDY COUNTY

KENEDY

Near ne corner of Kenedy ranch, which is also ne corner of county. **Means of Discovery:** Seismograph and core drilling. **Development:** Humble Oil & Refining Co. drilled three core holes in 1939; Kenedy 1, abnd 7920 ft with stuck drill stem. Kenedy 2, abnd 7818 ft, Kenedy 3, abnd 7706 ft. First two tests were in El Penaschal grant, and last was Las Moras grant. Results of the exploration unknown. **Principal Leaseholder:** Humble. **Remarks:** Humble has released no information concerning its exploratory work on the King and Kenedy ranches lying in Brooks, Hidalgo, Kenedy, Willacy, Kleberg, Jim Wells and Nueces Counties, under which the company has approximately 1,600,000 acres of leases. Rumors are that this company has uncovered a minimum of 20 prospects which it will explore in the most conservative manner.

PINTA HILL*

In northeastern portion of "Santa Quiteria" on Ramon Cabasos Gueria Survey, adjoining Brooks County line. **Means of Discovery:** Topographic high and a fresh water lake constitute the indication of a dome although there has been no confirmation by drilling.

KERR COUNTY

LOVE RANCH*

Centering around J. Martinez Survey 1594, in the southwestern corner of county. **Means of Discovery:** Geological information based on surface indications. **Development:** Evans & Gant's Love 1, Dec. 23, 1930, 65 bbls 39.8-gr oil and considerable water in 3 hrs from sand 3374-91 ft, caught fire, burned for several days and finally killed. Salt water flow increased and could not be cut off. Well had sands at 2544-63, 3490-3505 ft as well as at level in which completion was attempted. Abandoned at 4060 ft, Love 2 found shows in Mississippian at 5540-5830 ft, striking a porous lime at 5826-30 ft in which it filled with 34-gr black oil, but went to salt water when deepened to 5850 ft. Sand at 3055-60 ft in Pennsylvanian showed oil. Elevation 2380 ft, abnd 5870 ft. Other tests have had shows. M. R. Hart and H. H. Howell took over an old well on Jeff Love land known as No. 6 and deepened to 5677 feet without results. Well had an elevation of 2338 ft, top Bend limstone 5385 ft, Ordovician 5413 ft.

KIMBLE COUNTY

JUNCTION*

6 miles nw Junction, centering around Sections 43 and 44. **Means of Discovery:** Surface geology. **Development:** Plateau Oil Co.'s Anderson 1, elev 1782 ft, top Ellenberger 1819 ft, and found saturation 1864-69 ft. It pumped 8 bbls of 28.5-gr oil and 40 bbls of salt water, after acid treatment. It was tested for several months and abnd. Plateau Oil Co.'s Bolt 1, drilled to 1853 ft, plugged back to 1450 ft, completed in Pennsylvanian, 1420-35 ft, making 12 bbls of oil and 6 bbls of water after acid. Plateau Oil Co.'s Hunger 1, total depth 2006 ft, elevation 1784 ft, plugged back 1270 ft in pay topped 1220 ft, completed for 1¼ million cu ft per day after acid treatment and shot of nitro. Plateau Oil Co.'s Davis 1, abnd 1261 ft. Phillips Pet. Co.'s Mudge 1, abnd 2048 ft. All wells drilled in 1938. Despite the fact that tests made some oil, all have been abandoned. **Principal Leaseholders:** Humble Oil & Refining Co. has some acreage in area as does Phillips Petroleum Co. Plateau Oil Co. dropped most of its acreage.

KLEBERG COUNTY

BIRD ISLAND

One mi w North Bird Islands, 10 mi south Flour Bluff field, State submerged tr No. 522. **Means of Discovery:** Geophysics, mainly seismograph. **Discovery Data:** Pure Oil Co. et al's State 1 (168), Nov. 30, 1938, 20 bbls 53.4-gr distillate and considerable gas per day; 12/64-in ch; 2700 lbs tubing, 900 lbs casing pressures; producing horizon 7210-7310 ft, total depth 9636 ft, perforated 7210-30 ft with 77 shots, 7239-56 with 10 shots and 7269-78 ft with 40 shots. **Structure:** Elongated dome. **Elevation:** Sea level. **Formation, Depth, Gravity:** Frio, 7200 ft, 53.4 gr. **Productive Area:** 800 acres, 100 oil and distillate. **Development to July 1, 1939:** 1 distillate, 1 oil. **Expected Ultimate Recovery:** 450,000 bbls. **Produced to July 1, 1939:** 2,538 bbls. **Remaining Reserve:** 447,462 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 18⅝-in, 198 ft, 13⅜-in 2125 ft, 9⅝-in 7617 ft; 874 ft of 7-in liner, 8280 ft, completed through perforations. Wells are drilled on islands constructed in Laguna Madre. Both producers flowing. Field ultimately may be recycled. **Outlets:** Barges. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Pure Oil Co., Superior Oil Corp., A. W. Cherry, Tide Water Associated Oil Co., Moore & Lewishon et al, Johnson & McCurdy, W. B. Dilbeck, E. Lary, Sun Oil Co., Barnsdall Oil Co.

KINGSVILLE

Sections 37, 38, 39, 40, 41, s Kingsville. **Means of Discovery:** Wells drilled for water as early as 1912 showed gas. Well on Rosse farm in 1914 blew out, caught fire. **Discovery Data:** Kleberg Oil Gas Co.'s Rosse 1, 1920, 50,000,000 cu ft, 2143 ft. **Structure:** Domal type structure, may be deep seated salt dome. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Miocene and Oligocene, 1400 ft, 1880, 2150 ft gas; 2150 ft, 22.5 gr; 2800 ft, gas; 2900 ft, 21 gr; 3225 ft, 22 gr. **Productive Area:** 1800 acres, 240 oil, 1560 gas. **Development to July 1, 1939:** 66 wells, 19 oil, 14 gas, 39 failures. **Expected Ultimate Recovery:** 1,000,000 bbls. **Produced to July 1, 1939:** 707,766 bbls. **Remaining Reserve:** 292,244 bbls. **Deepest Hole:**

* Prospect. ‡ Gas field.

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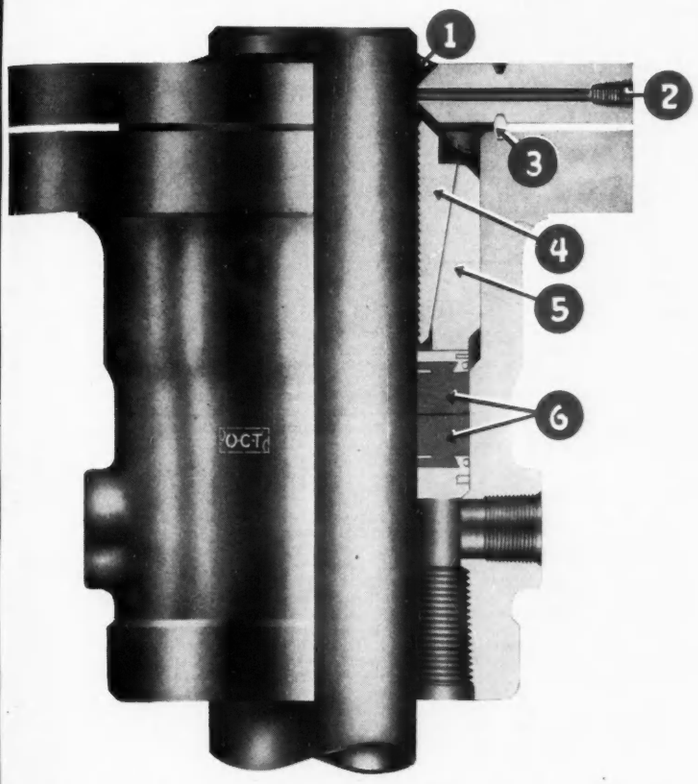

Reference to Figures Above: (1) Weld, (2) Hydraulic pressure port, (3) A.P.I. ring gasket, (4) 3-segment slips, (5) Split slip bowl, (6) Neoprene packing assembly.

THIS O-C-T Type "C-9-C" Casing Head has got everything it takes to safely suspend and seal casing strings. Slip suspension permits landing casing at any desired point and enables the operator to suspend the casing with the desired amount of tension, without backing out the top joint and nippling up. Two heavy rings of neoprene packing provided below the slips effect a seal the instant pipe is suspended on the slips, weight of the casing being utilized to compress the packing around the pipe. After casing is suspended, the top joint is cut off approximately one foot above top of casing head, preventers are then removed and welding flange slipped over casing and welded to same. Then to make sure that the weld is pressure-tight, hydraulic pressure is applied between the weld and the neoprene seal through a port in the welding flange. (Testing apparatus and testing operation illustrated below.) Thus, the annular space is sealed below the slips, and the weld provides an auxiliary seal above the slips as well as a means of preventing the pipe from moving either upward or downward. An A.P.I. ring gasket seals between flanges. The welding flange is also grooved on top for an A.P.I. ring gasket to seal between blowout preventers, another casing head, or tubing head.

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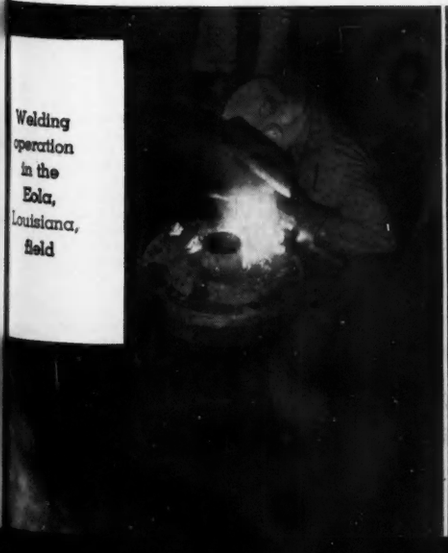


Welding operation in the Eola, Louisiana, field

Testing the weld. Note 2500 lbs. pressure on gauge

O-C-T 6000 pounds test all-flanged Christmas tree in the Eola field, utilizing Type "C-9-C" Casing Head, Type "T-16" Tubing Head, and Type FC-100A Flow Cross with quick change Flow Bean and special cap which eliminates backing out bull plug for changing beans.

Humble Oil & Refining Co.'s Flato 4, abnd 5814 ft, Oct. 1929. **Development and Producing Methods:** 10-in 500 ft, producing string atop sand. Majority of wells are pumping and making considerable water. **Outlets:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Joe Stelzig, Humble.

NORTH KINGSVILLE

4 miles nw of Kingsville, and centering around nw corner of Juan Mindiola or De Santa Gertrudis gr. **Means of Discovery:** Seismograph by Humble Oil & Refining Co. **Development:** Undrilled. Farmout deal now being negotiated for deep test on expiring lease. **Principal Leaseholder:** Humble.

LIVE OAK COUNTY

FORT MERRILL

7 mi se George West, P. Salinas Survey. **Means of Discovery:** Geological data, trend play. **Discovery Data:** Mills Bennett's Walton & Shipp 1, Aug. 19, 1935, 325 bbls 42-gr oil ⅛-in choke, 650 lbs tubing, 950 lbs casing pressure; total depth 5425 ft, producing horizon 4699-4700 ft (plugged to 4750 ft and perforated with 50 shots at 4700-4706 ft). **Structure:** Production due to closure against fault. **Elevation:** 250 ft. **Formation, Depth, Gravity:** Upper Saline Bayou (Yegua), 4700 ft, 42 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 2 oil, 1 failure. **Expected Ultimate Recovery:** 29,255 bbls. **Produced to Jan. 1, 1939:** 29,225 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** Discovery well. **Principal Leaseholders:** Open.

LOBO‡

1 mi nw Oakville, William Odocharty Survey. **Means of Discovery:** Surface indications. **Discovery Data:** Live Oak Basin Oil Co.'s Reagan 1, 1920, 2,000,000 cu ft gas 840 ft. **Structure:** Sand lensing and faulting. **Elevation:** 220 ft. **Formation, Depth, Gravity:** Top Jackson, 840 ft, gas (Cole). **Productive Area:** 40 acres. **Development to July 1, 1939:** 16 wells, 3 gas, 13 failures. **Deepest Hole:** Lightfoot et al's W. H. Lewis L, abnd 2475 ft. **Outlet:** Field abndoned from production point of view, still prospecting for oil. **Rig Running July 1, 1939:** One wildcat nearby. **Principal Leaseholders:** Henderson Coquat, H. F. Baker, Rupert Ricker.

MARBACH‡

3 mi sw Whitsett, Block 15, Claunch Ranch, Elizabeth Jurdin surveys. **Means of Discovery:** Geological information, trend play. **Discovery Data:** C. L. Witherspoon Sr.'s Marbach 1-A, April 25, 1934; total depth 527 ft, sand 513-27 ft, 4-in casing set 513 ft, 10,500,000 cu ft gas, rock pressure 173 lbs. **Structure:** Sand lensing structure, dipping se; ne-sw trend. **Elevation:** 240 ft. **Formation, Depth, Gravity:** Hockleyensis, 500 ft, gas. **Productive Area:** 500 acres, gas. **Development to July 1, 1939:** 8 wells, 1 gas, 7 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** C. L. Witherspoon's Marbach 2, abnd 1507 ft July 1, 1934. **Outlet:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** C. L. Witherspoon, R. A. Davis, Durbin et al.

McNEILL

2 mi w Dinero, S. N. Dobie, GH&H, M. M. Shipp and Jane Curry surveys. **Means of Discovery:** Geological information. **Discovery Data:** Lion Oil Refining Co.'s McNeill 1, Aug. 17, 1934, 360 bbls 44.5-gr oil; total depth 4376 ft, 9⅝-in casing 4368 ft, sand 4370-76 ft, 200 lbs tubing, 350 lbs casing pressures, ¼-in choke. **Structure:** Closure against faulting. **Elevation:** 220 ft. **Formation, Depth, Gravity:** Hockleyensis, 4375 ft, 44.5-gr; Cockfield (Pettus), 5000 ft, 47-gr. **Productive Area:** 120 acres, 70 oil, 50 gas. **Development to July 1, 1939:** 13 wells, 7 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** 475,000 bbls. **Produced to July 1, 1939:** 223,679 bbls. **Remaining Reserve:** 251,321 bbls. **Deepest Hole:** Lion Oil & Refining Co.'s Doble 1, abnd 6212 ft, Nov. 7, 1935. **Development and Producing Methods:** 10-in, 400 ft, casing atop sand. Most of wells on pump or jetting. **Outlets:** Rail, trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Lion Oil & Refining Co., Darby Petroleum Co., Trinity Drillers, Inc., Magnolia Petroleum Co.

MOUNT LUCAS

M. B. Kiolin, G. W. Wright, E. Gonzales, F. Botello, W. J. Cannon, John McMullen, J. Sandman surveys, at town of Lucas. **Means of Discovery:** Geological information. **Discovery Data:** Houston Oil Co.'s Cartwright 1, Jan., 1923, 20,000,000 cu ft gas, in 2200-ft sand. **Structure:** Sand lenses on large Domal type structure. Some faulting. **Elevation:** 220 ft. **Formation, Depth, Gravity:** Gueydan-Catahoula zone gas sands 2000-2500 ft; Frio, 3500 ft; Pettus, 5200 ft. Oil sands 2500 ft and 3550 ft, 23.5-gr; 5200 ft, 52.3-gr. **Productive Area:** 3650 acres, 320 oil, 3330 gas. **Development to July 1, 1939:** 68 wells, 13 oil, 39 gas, 16 failures. **Expected Ultimate Recovery:** 1,160,000 bbls. **Produced to July 1, 1939:** 273,095 bbls. **Remaining Reserve:** 886,905 bbls. **Deepest Hole:** Houston Oil Co.'s Cartwright 32, 6787 ft, plugged back 5316 ft. set casing at 5316 ft, perforated 5246-56 ft, 12,000,000 cu ft gas, June 30, 1935. **Development and Producing Methods:** 10-in, 450 ft, producing string through lower oil sand and perforated to control gas pressure. **Outlets:** Houston Oil Co., loading rack. Gas through Houston Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Houston Oil Co. controls majority of block.

NORTH LUCAS (Dinero)

Jane Curry Survey, at Dinero Townsite. **Means of Discovery:** Trend play. **Discovery Data:** Smith and Storey's Frederick 1, April 6, 1935, 440 bbls 44.2-gr oil, ¼-in choke, 700 lbs tubing, 1200 lbs casing pressures; total depth 5209 ft, producing horizon, 5201-09 ft, elev 104 ft. **Structure:** Production due to sand conditions, lensing on domal type structure. **Elevation:** 105 ft. **Formation, Depth, Gravity:** Yegua, 5200 ft, 44.2-gr. **Productive Area:** 350 acres, 120 oil, 130 gas. **Development to July 1, 1939:** 8 wells, 2 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** 240,000 bbls. **Produced to January 1, 1939:** 72,718 bbls. **Remaining Reserve:** 167,282 bbls. **Deepest Hole:** Houston Oil Co., Frederick 1, abnd Sept. 12, 1935, 5913 ft. **Outlet:** Short line to loading racks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Houston Oil Co., Tri-Ess Corp.

OAKVILLE

1 mi n Oakville, Louis Romero Survey. **Means of Discovery:** Surface conditions: **Discovery Data:** Simmons Oil & Gas Co.'s Reagan 1, 1928, 1,500,000 cu ft, 300 ft, producing horizon 256-300 ft, 52 lbs rock pressure. **Structure:** Considerable major faulting. **Elevation:** 240 ft. **Formation, Depth, Gravity:** Catahoula, 300 ft, gas; Cockfield (Pettus), 2800 ft, 32-gr; Hockleyensis sands, 1800 and 2100 ft, 21-gr. **Productive Area:** 440 acres, 320 oil, 440 gas, 120 undeveloped. **Development to July 1, 1939:** 44 wells, 10 oil, 15 gas, 19 failures. **Expected Ultimate Recovery:** 1,664,000 bbls. **Produced to July 1, 1939:** 62,724 bbls. **Remaining Reserve:** 1,601,-276 bbls. **Deepest Hole:** The Texas Co.'s L. A. Reagan 1, abnd 4500 ft. **Development and Producing Methods:** 10-in, 200 ft; 5- and 7-in producing strings through sand wherein gas/oil ratio is high, others atop sand. Wells flowing or jetting. Some making considerable water. **Outlets:** Gas line to Three Rivers, oil by trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Henderson Coquat, Simmons Oil & Gas Co., Ohio Fuel Supply Co., Dirks Bros.

PICKETT‡

4 mi sw Whitsett, T. B. Sparks, J. J. Sparks surveys. **Means of Discovery:** Trend drilling. **Discovery Data:** Geo. B. Pickett's Nelson 2, 1926, 500,000 cu ft gas, 438 ft. **Structure:** Small subsurface high with local sand lenses. **Elevation:** 250 ft. **Formation, Depth, Gravity:** Gas in lower Cole sand; Jackson, 430 ft. **Productive Area:** 140 acres gas. **Development to July 1, 1939:** 15 wells, 6 gas, 9 failures. **Deepest Hole:** Loma Oil Co.'s Brewer 1, abnd 1306 ft. **Outlet:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Loma Oil Co.

RAMIRENA‡

7 mi west Lagarto, A. Parks Survey. **Means of Discovery:** Subsurface and surface correlations. **Discovery Data:** Hantho-Nelson et al's Bell 1, Mar. 13, 1938, 3,000,000 cu ft gas and spray of 39.7-gr oil per day, ⅛-in choke; 750 lbs tubing, 960 lbs casing pressures; producing horizon 5052-79 ft, total depth 5290 ft, perforated 5076-78 ft with 2 shots. **Structure:** Anticline with possible faulting. **Elevation:** 286 ft. **Formation, Depth, Gravity:** Pettus, 5050 ft, 39.7-gr, but only well is making gas. **Productive Area:** 10 acres. **Development to July 1, 1939:** 3 wells, 1 gas, 2 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Cities Service Oil Co.'s McCaslin 1 abnd 6111 ft, April 19, 1939. **Development and Producing Methods:** 10¾-in casing, 465 ft; 5½-in casing, 5058 ft. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Cities Service Oil Co., James B. Chew, Dirks Bros., J. R. Dougherty et al, Houston Oil Co., Magnolia Petroleum Co., Wellington Oil Co.

THREE RIVERS‡

1 mi nw Three Rivers, B. Haughy, Thomas Henry, R. Everett surveys. **Means of Discovery:** Trend drilling. **Discovery Data:** Glasco & Falin's Tips 1, 1926, 662 ft, blew out while drilling, made about 10,000,000 cu ft gas. **Structure:** Sand lensing, some faulting. **Elevation:** 220 ft. **Formation, Depth, Gravity:** Upper Jackson, 660 ft and 825 ft, both gas. **Productive Area:** 250 acres. **Development to July 1, 1939:** 12 wells, 5 gas, 7 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Henderson Coquat's Wedding 1; abnd 2410 ft. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Henderson Coquat.

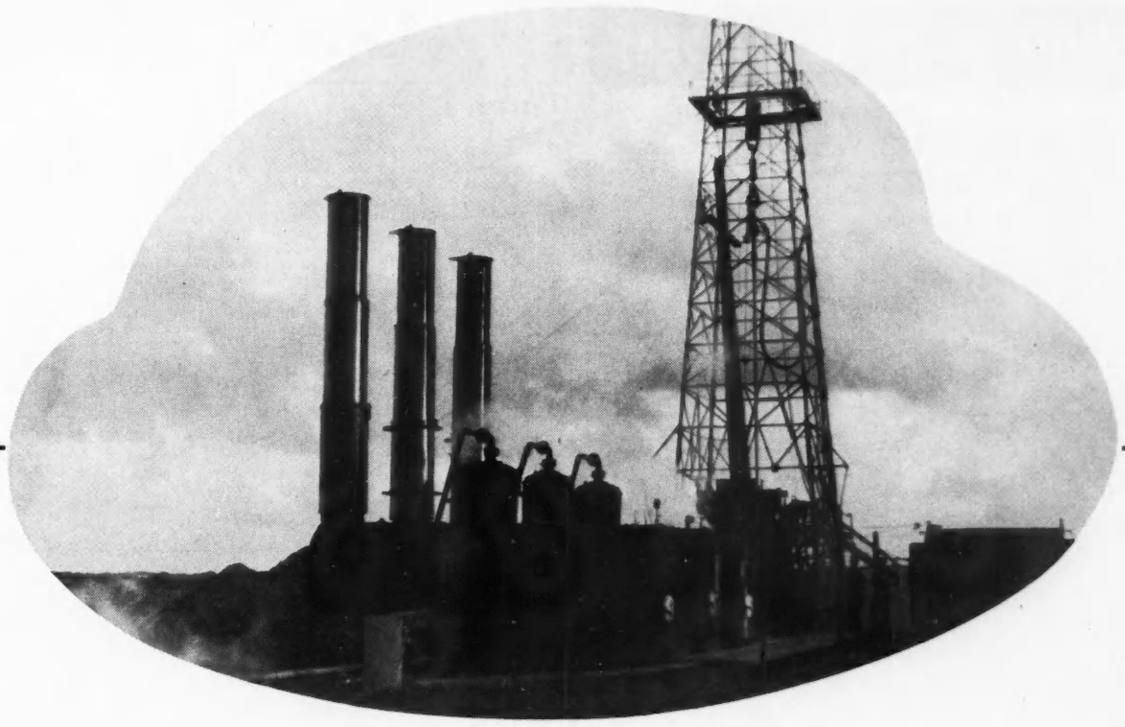
MOUNTAIN VIEW‡

15 mi sw Geo. West, A. Moore Survey No. 382. **Means of Discovery:** Core drilling and subsurface information. **Discovery Data:** Sal Vieja Oil Corp. et al's Riser 1, Sept. 5, 1939, flowed 2 mcf gas, ¼-in choke, 700 lbs closed in; total depth 3010 ft, perforated in sand 2477-96 ft. **Structure:** Sand lensing against fault. **Elevation:** 420 ft. **Formation, Depth, Gravity:** Government Wells sand, 2490 ft, gas. **Productive Area:** 20 acres. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Sal Vieja Oil Corp.'s Hines 1, abnd 3507 ft in Pettus, July 17, 1939. **Development and Producing Methods:** 250 ft of 10-in casing; producing string through sand and perforated. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Wellington Oil Co., Sal Vieja Oil Corp., Western States Gasoline Co., Cities Service Oil Co., Mid-Continent Petroleum Co.

WHITE CREEK

5 mi sw Simmons City, 1 mi s Ezzell field, BS&F Survey. **Means of Discovery:** Magnetometer, surface geology. **Discovery Data:** Brauer, Holland & Smith's Bonham, Feb. 17, 1939, 75 bbls 22.39-gr oil, pumping; producing horizon 1390-97 ft; total depth 1397 ft. **Structure:** Sand lensing. **Elevation:** 215 ft. **Formation, Depth, Gravity:** Hockleyensis sand, 1400 ft, 22.4-gr; another lens slightly below producing same gravity crude. **Productive Area:** 160 acres, 20 oil, 140 undeveloped. **Development to July 1, 1939:** 3 oil, 4 failures. **Expected Ultimate Recovery:** 70,000 barrels, July 1, 1939. **Produced to July 1, 1939:** 3711 bbls. **Remaining Reserve:** 66,289 bbls. **Deepest Hole:** Brauer et al's Bonham 2, abnd 1786 ft, April 26, 1939. **Development and Producing Methods:** 10-in casing, 60 ft; 5½-in top of sand. Several wells flowed, but all now pumping. **Outlets:** Alamo Pipe Line Co., and trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Buckloo et al, C. T. Grimes, Holland & Smith, Alvin Brauer, Sure Oil Co., Luling Oil & Gas Co., G. A. Gage II, Henderson Coquat, Wilkins Seacord.

• Prospect. ‡ Gas field.



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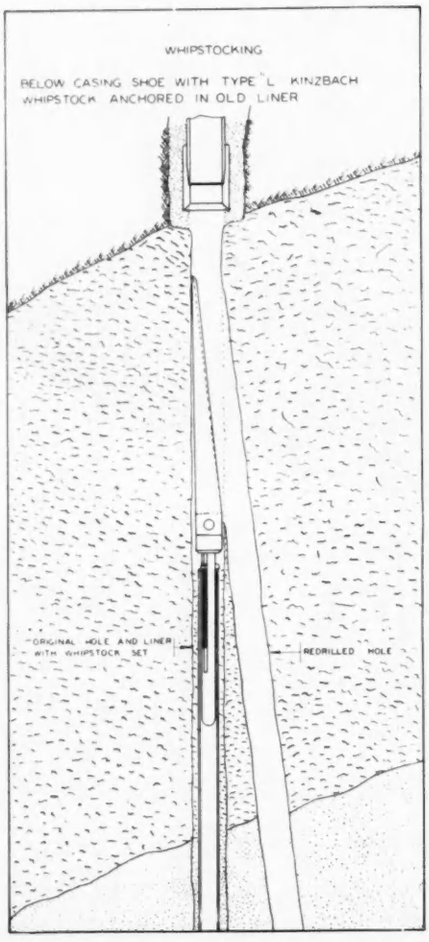
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MAVERICK COUNTY

CHITTIM

15 mi ne Eagle Pass, Section 115, 116. **Means of Discovery:** Surface geology. **Discovery Data:** Rycade Oil Corp.'s Chittim 1, 1929, 28,000,000 cu ft gas spraying 40 bbls high-gravity oil, 2000 lbs pressure; total depth 5640 ft, producing horizon 5520-80 ft, elevation 831 ft. **Structure:** Anticlinal structure. **Elevation:** 800 to 900 ft. **Formation, Depth, Gravity:** Glenrose, 5650 ft, gas; some 42.5-gr oil produced from Edwards lime at 3250 ft. Also small amount of crude from Buda at 3000 ft. **Production Area:** 800 acres, 100 oil and distillate, 700 acres gas. **Development to July 1, 1939:** 19 wells, 1 oil, 5 gas, 13 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 36,334 bbls. **Remaining Reserve:** 63,666 bbls. **Deepest Hole:** Rycade Oil Corp.'s Chittim 2, abnd 7635 ft, in Trinity. **Development and Producing Methods:** 10-in, 850 ft; producing string atop sand and acidized. Wells producing gas with small amount of condensate recovered through separator. **Outlet:** Texas Gas Utilities. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Texas Gas Utilities Co., Wellington Oil Co. **Remarks:** Rycade's Chittim 3, flowed about 150 bbls 44-gr oil at 3205 ft in Buda and deepened to regular pay in 1929. Only well tested at this level. Later, this well started flowing from between producing and intermediate string of casing. Wellington Oil Co.'s Chittim 1, east of the field, flowed some oil from Edwards limestone at 3255-87 feet, indicating a reserve in this formation.

McMULLEN COUNTY

BYRNE PASTURE*

3 mi w Calliham, George Pittuck Survey. **Means of Discovery:** Geological information, trend play. **Development:** John F. Camp Drilling Co.'s Byrne 3 blew out April 20, 1936, at 500 ft, but was killed and deepened to 995 ft, abnd. Several other wells in area have had oil showings. Byrne 2 blew out at 304 ft and was killed and abnd. No. 4 was drilled to 1008 ft and abnd. All three operations were in 1936. Subsequent shallow drilling in area has failed to develop production.

CALLIHAM

1 mi n Calliham, James Pittuck, Roderick O'Boyle, Michael Hely, E. B. W. Scrugham, James Garner surveys. **Means of Discovery:** Geological information, oil seeps. **Discovery Data:** Grubstake Inv. Co.'s Brown 1, Nov. 16, 1918, 40,000,000 cu ft gas 876 ft, producing horizon 848-76 ft, 5-3/16-in casing 797 ft. **Structure:** Sand lensing with se dip. **Elevation:** 200 to 240 ft. **Formation, Depth, Gravity:** Mirando sand in Hockleyensis, 875 ft, 20-gr; Pettus sand in Cockfield, 1050 ft, 20.6-gr. **Productive Area:** 770 acres, 370 oil, 400 gas. **Development to July 1, 1939:** 164 wells, 87 oil, 26 gas, 51 failures. **Expected Ultimate Recovery:** 1,000,000 bbls. **Produced to July 1, 1939:** 753,607 bbls. **Remaining Reserve:** 246,393 bbls. **Deepest Hole:** Houston Oil Co.'s Stitz 2, abnd 3000 ft. **Development and Producing Methods:** 10-in at 20 ft; 7-in atop sand and wells completed on pump, powered by central units. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Austin Petroleum Co., Biglane & Snyder, Grubstake Investment Association, Comet Oil Co., Joe B. Coursey, W. P. Howard, R. P. Lightfoot, H. C. Coquat, Marion Production Co., Travelers Oil Co. **Remarks:** Six-month production estimates include South Calliham.

CAMPANA

8 mi ne Seven Sisters, AB&M Survey 57. **Means of Discovery:** Surface geology and subsurface information. **Discovery Data:** William H. Spice, Jr.'s Edrington 1, Sept. 21, 1938, 20 bbls 22-gr oil, 500,000 cu ft gas per day; ¼-in choke; 250 lbs tubing, 450 lbs casing pressures; producing horizon 2492-2519 ft, total depth 2519 ft. **Structure:** Combination of faulting and possible sand lensing. **Elevation:** 494 ft. **Formation, Depth, Gravity:** Government Wells, 2490 ft, 22-gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 5 wells, 1 gas, 4 failures. **Deepest Hole:** Humble Oil & Refining Co.'s Edrington 1, abnd 3100 ft in Pettus. **Development and Producing Methods:** 10¾-in casing, 43 ft; 7-in casing, 2500 ft; test 2492-89 ft, bottom-hole pressure showed 410 lbs flowing and 968 lbs when shut in 5 minutes. Gas well sprayed some oil but ratio could not be cut. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Argo Oil Corp., Adams & Lefevre, Humble, Rowan & Hope, William H. Spice, Jr., Barbara Oil Co., Douglas Rhode.

EZZELL

5 mi sw Simmons City, Sections 20 and 23 Ezzell Ranch, Subd. **Means of Discovery:** Geological information, magnetometer survey. **Discovery Data:** E. M. Jones' Ezzell 4, June 2, 1937, 186 bbls 19.7-gr oil ¼-in choke, tubing pressure 90 lbs, casing pressure 420 lbs, sand 1523-33 ft, 7-in on bottom 1534 ft, perforated 1523-33 ft with 30 shots. **Structure:** Not defined, but likely large sand lens on fold. **Elevation:** 140 to 200 ft. **Formation, Depth, Gravity:** Loma Novia sand in Hockleyensis zone of Jackson age, 1525 ft, 19.7-gr. **Productive Area:** 1750 acres, 1420 oil, 330 gas. **Development to July 1, 1939:** 173 wells, 144 oil, 6 gas, 23 failures. **Expected Ultimate Recovery:** 5,964,000 bbls. **Produced to July 1, 1939:** 1,363,375 bbls. **Remaining Reserve:** 4,600,415 bbls. **Deepest Hole:** Jones' Ezzell 7, dr to 2385 ft, pb comp in regular sand in 1937. **Development and Producing Methods:** 10-in, 60 ft; 7-in through sand, perforated. Well on pump from central powers. **Outlets:** Trucks to local market; also Alamo Pipe Line Co. **Rigs**

* Prospect. ‡ Gas field.

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Running July 1, 1939: 2. **Principal Leaseholders:** Bleak Hill Oil Co., Harry Ezzell, G. C. Glasscock, Lonnie Glasscock, Mike Glasscock, Inc., Edwin M. Jones, Parr & Delaney, Simmons Oil Co., F. E. Stancil, Sure Oil Co.

JACOB

2 mi n Calliham, Hohn Fadden, J. O'Boyle, M. Pittuck, W. H. Jacobs surveys, Nos. 7, 5, 8, 10, L. Jacob Survey No. 615, William D. Benham Survey No. 8, E. W. B. Scrugham Survey. **Means of Discovery:** Geological information, oil discovered as result of subsurface correlations on abandoned tests and shallow gassers. **Discovery Data:** Southern Natural Gas Co.'s Jacob 1, 1926, 10,000,000 cu ft gas, 788 ft, sand 780-88 ft. **Structure:** Sand lens on large regional structure (Crowther Monocline). **Elevation:** 190 ft. **Formation, Depth, Gravity:** Mirando sand, Jackson age, 780 ft, gas; Pettus, Cockfield, 950 ft, 20.5-gr. **Productive Area:** 1400 acres. **Development to July 1, 1939:** 159 wells, 112 oil, 4 gas, 43 failures. **Expected Ultimate Recovery:** 2,940,000 bbls. **Produced to July 1, 1939:** 1,286,832 bbls. **Remaining Reserve:** 1,653,168 bbls. **Deepest Hole:** Loma Oil Co's Jacob 44-A, W. H. Jacob Survey No. 10, abnd in Mount Selman which was topped at 2600 ft in 1936. Total depth 3171 ft. Top Cook Mountain 1700 ft, Yegua 900-1700 ft. **Development and Producing Methods:** 10-in, 40 ft; 5½-in atop sand, wells on pump. **Outlets:** Cardinal Pipe Line Co. to loading racks at Whittsett; trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Loma Oil Co., Light Stephenson, G. W. Basom, Chiquita Oil Co., Indian Oil Ltd., Stewart Oil & Gas Co., National Oil Co. **Remarks:** Recent production includes North Jacob.

LOMA ALTA

Near Loma Alta, Section 13, M. L. Dean Survey. **Means of Discovery:** Subsurface geology. **Discovery Data:** Texio Oil Co. et al's Atkinson 1, May 29, 1935, 250 bbls 21-gr oil, ⅛-in choke, 50 lbs tubing, 235 lbs casing pressures; total depth 2207 ft, producing horizon 2195-2207 ft, elev 700 ft. **Structure:** Sand lensing and faulting control production. **Elevation:** 700 ft. **Formation, Depth, Gravity:** Chernosky sand (Hockleyensis), 2200 ft, 21-gr; Lower Chernosky, 2250 ft, 21.5-gr. **Production Area:** 80 acres. **Development to July 1, 1939:** 16 wells, 5 oil, 11 failures. **Expected Ultimate Recovery:** 360,000 bbls. **Produced to January 1, 1939:** 105,925 bbls. **Remaining Reserve:** 254,075 bbls. **Deepest Hole:** W. A. Wagner's Atkinson 1, abnd 2960 ft, July 7, 1938. **Development and Producing Methods:** 10-in, 60 ft; 7-in atop sand. All wells on pump. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Illinois Petroleum Co., V. G. Schimmel, W. A. Wagner.

LOWE RANCH*

6 mi sw Tilden, near central portion of Lowe Ranch. **Means of Discovery:** Geological information, oil shows in water well. **Development:** Several wells have been drilled, many developing small production in Mirando sand around 400 ft. Oil contains ichthyol. Several wells have been drilled to around 1500 ft and Magnolia Petroleum Co.'s Kincaid 1, 2 mi se, was drilled to 4670 ft. There is some evidence of faulting of normal dip, but production is mainly as a result of sand lensing. Several wells drilled during past year in general area have failed to develop oil production. Small amount of oil now being trucked to market.

MUNSON

BS&F Survey, swc of county. **Means of Discovery:** Geological survey and trend drilling. **Discovery Data:** Albright et al's Nueces L. & L. Co. 1, Aug. 31, 1938, 80 bbls 22-gr oil per day, pumping; producing horizon 1202-13 ft, total depth 1313 ft, perforations 1201-11 ft with 24 shots. **Structure:** Sand lensing. **Elevation:** 335 ft. **Formation, Depth, Gravity:** Mirando, 1200 ft, 22-gr. **Productive Area:** 180 acres, 120 oil, 60 undeveloped. **Development to July 1, 1939:** 21 wells, 13 oil, 8 failures. **Expected Ultimate Recovery:** 456,000 bbls. **Produced to January 1, 1939:** 56,978 bbls. **Remaining Reserve:** 399,022 bbls. **Deepest Hole:** Dovre & Brown's Nueces L. & L. Co. 1, abnd 1405 ft in Mirando, Dec. 14, 1938. **Development and Producing Methods:** 10¾-in, 37 ft, 5- to 7-in producing string top of sand. Wells completed on pump. **Outlets:** Trucks; Humble Pipe Line Co. expected to make connections. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Bishop Oil Co., Ohio Fuel Supply Co., Tom Graham Oil Co., Arkansas Fuel Oil Co.

NORTH JACOB

5 mi w Whitsett, centering around GH&H Section 15, Sparks and Hays surveys. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Loma Oil Co.'s Griffith 1, March 20, 1922, 8 bbls 20-gr oil per day, 929 ft, producing horizon 920-27 ft. **Structure:** Sand lensing on local structure. **Elevation:** 290 ft. **Formation, Depth, Gravity:** Pettus (Cockfield), 925 ft, 20-gr. **Productive Area:** 120 acres. **Development to July 1, 1939:** 34 wells, 11 oil, 23 failures. **Expected Ultimate Recovery:** See Jacob for reserve figures. **Deepest Hole:** Loma Oil Co.'s Dickenson 1, abnd 1770 ft. **Development and Producing Methods:** 10-in, 40 ft; 5½-in atop sand and wells completed on pump. **Outlet:** Cardinal Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** G. W. Basom, Loma Oil Co. **Remarks:** Production estimates included in Jacob.

RHODE‡

Sections 78 and 86, se portion of county. **Means of Discovery:** Geological information. **Discovery Data:** Magnolia Petroleum Co.'s Kincaid 2, May 1, 1936, 20,000,000 cu ft gas, open tubing 90 lbs, casing pressure 620 lbs; total depth 3153 ft, producing horizon 1810-22 ft, elev 545 ft, plugged back to 1810 ft and redrilled to 1822 ft, showed shut-in pressure 650 lbs. **Structure:** Sand lens apparent faulting to west. **Elevation:** 545 ft. **Formation, Depth, Gravity:** Cole of Upper Jackson, 1820 ft, gas. **Productive Area:** 1200 acres. **Development to July 1, 1939:** 18 wells, 12 gas, 6 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Mag-

* Prospect. ‡ Gas field.

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nolia's Kincaid 1, abnd 3356 ft. **Development and Producing Methods:** 10-in, 100 ft; 7-in atop sand. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Argo Oil Corp., Barbara Oil Co., Rowan and Hope, Inc., Humble Oil & Refining Co., Magnolia Petroleum Co.

SOUTH CALLIHAM

2½ mi s Calliham, F. Faddin, M. Hely surveys. **Means of Discovery:** Surface and subsurface information. **Discovery Data:** Howard et al's Clauch 1-A, Nov. 19, 1934, 10,000,000 cu ft gas, 780 ft. **Structure:** Some lensing and faulting. **Elevation:** 200 ft. **Formation, Depth, Gravity:** Upper Jackson, 150 ft, gas; Hockleyensis (Government Wells), 1050-1150 ft, gas and 21-gr; Loma Novia, 1250 ft gas, also oil 22-gr. **Productive Area:** 620 acres, 120 oil, 320 expected to produce oil, 620 gas. **Development to July 1, 1939:** 19 wells, 6 oil, 7 gas, 6 failures. **Expected Ultimate Recovery:** See Calliham for reserve information. **Deepest Hole:** Edwin M. Jones Ezzell 3, sec 3, Ezzell Ranch Subd. Adams sur. drilled to 5301 ft, plugged back and completed at 1230-36 ft for 10,000,000 cu ft gas, May 24, 1937. **Development and Producing Methods:** 10-in, 40 ft; 7-in through sand and perforated. Wells on pump. **Outlets:** Trucks; gas to United Gas System. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Edwin M. Jones, Danvers & Harrison, Bigland & Snyder, W. P. Howard, H. C. Coquat.

SAN JOSE‡

6 mi nw Seven Sisters, E. T. RR Sur No. 5, Blk. 5. **Means of Discovery:** Trend drilling and correlations. **Discovery Data:** V. G. Schimmel et al's L. Kountz 2, Aug 2, 1938, 3,000,000 cu ft gas and 5 bbls 23-gr oil per day, ¼-in choke; 245 lbs tubing, 295 lbs casing pressures; producing horizon 1147-63 ft, total depth 2012 ft, plugged back perforated 1159½-62 ft with 10 shots. **Structure:** Sand lensing. **Elevation:** 387 ft. **Formation, Depth, Gravity:** Cole, 1145 ft, 23-gr. **Productive Area:** 60 acres, 40 gas, 20 oil. **Development to July 1, 1939:** 6 wells, 1 gas, 2 oil, 3 failures. **Expected Ultimate Recovery:** No estimate, gas field shut in (made small amount of oil). **Produced to January 1, 1939:** 450 bbls. **Deepest Hole:** V. G. Schimmel's Kountz 1, abnd Nov. 4, 1937, 2370 ft, top Pettus 2147 ft. **Development and Producing Methods:** 10-in, 28 ft; 7-in, 1280 ft; completion through perforations. Water, oil and gas/oil contacts close to each other and wells make large volume of water when completed in oil zone. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** V. G. Schimmel, Trinity Drillers, Inc., Darby Petroleum Corp., Devonian Oil Co., Cooper Frates Oil Co., Smith & Hammil & Appfel.

WENTZ‡

Sw Wentz, e central part of county, centering Sections 59, 63, 64, 65, 66 and 72. **Means of Discovery:** Geological information, surface work. **Discovery Data:** Schimmel et al's Hale 1, Feb. 3, 1932, 4,000,000 cu ft gas, 200 lbs rock pressure; total depth 382 ft, producing horizon 370-82 ft, elev 200 ft, 6⅝-in casing 366 ft. **Structure:** On large surface nose reflecting from small subsurface nose. **Elevation:** 200 ft. **Formation, Depth, Gravity:** Cole sand, Jackson age, 380 ft, gas. **Productive Area:** 125 acres. **Development to July 1, 1939:** 14 wells, 3 gas, 11 failures. **Deepest Hole:** V. G. Schimmel's Two Rivers Ranch 1, abnd 1654 ft after blowout. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** V. G. Schimmel, Darby Petroleum Co.

MEDINA COUNTY

ADAMS‡

12 mi se Hondo, Edwin C. Darst, Joseph Hillemeyer, Charles Decker, Jacob Haff and A. Arby surveys. **Means of Discovery:** Geological information, surface indications. **Discovery Data:** Henderson-Holden Oil Corp.'s Adams 1, April 16, 1926, 8 million cu ft gas, 380 lbs rock pressure, total depth 907 ft, producing horizon 903-907 ft. **Structure:** Sandy shale body, backed up against some faulting. **Elevation:** 720 ft. **Formation, Depth, Gravity:** Navarro-Taylor, 900 ft, gas. **Productive Area:** 1650 acres. **Development to July 1, 1939:** 58 wells, 46 gas, 12 failures. **Deepest Hole:** Edwards lime test abnd 2289 ft. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** United Gas System controls and operates field.

CHICON LAKE

5 mi n Natalia, 1 mi sw Pearson, M. W. Hewitt No. 39 and B. S. Reid No. 19 Surveys. **Means of Discovery:** Geological data. **Discovery Data:** Pearson Oil Co.'s San Antonio Irrigated Farms 1, June 12, 1929, 2,000,000 cu ft gas, 350 lbs rock pressure, total depth 1071 ft, producing horizon 780-820 ft, total depth in serpentine, plugged back to 850 ft, set 6⅝-in casing 780 ft, gas sand 530 ft, top serpentine 938 ft. **Structure:** Structure doming over serpentine plug. **Elevation:** 738 ft. **Formation, Depth, Gravity:** Navarro-Taylor series, 250 to 350 ft, 19 gravity; 480 ft, gas; 900 ft, 33.7 gravity (latter includes serpentine). **Productive Area:** 750 acres, 280 oil, 470 gas. **Development to July 1, 1939:** 76 wells, 42 oil, 11 gas, 23 failures. **Expected Ultimate Recovery:** 140,000 bbls. **Produced to January 1, 1939:** 34,729 bbls. **Remaining Reserve:** 105,271 bbls. **Deepest Hole:** Thomas & Tarver's Mangold 1, abnd 1700 ft; top serpentine 930 ft; top Edwards lime 1640 ft. **Development and Producing Methods:** Drilled with spudder; 6-in set atop sand and wells completed on pump from central power. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** A. A. Murrell, Chas. H. Wagener, J. E. Whiteside, F. H. Eckert.

DEVINE*

4 mi se Devine, centering around Sur No. 33½, G. Petty gr. **Means of Discovery:** Geological information, both surface and subsurface. **Development:** Campbell et al's McNenemy 1, abnd May 24, 1936; drilled to 2892 ft, plugged back to 2190 ft and attempted to complete in sand and sandy shale section from 1918-2190 ft; flowed a little oil, was put on pump, but could not overcome mud. Frank J. Dykstra et al's A. C. McNenemy 2, abnd May 25, 1938, 2150 ft.

DUNLAY

2 mi sw of Dunlay Survey No. 42. **Means of Discovery:** Magnetometer and core drilling. **Discovery Data:** Ewing Oil Co.'s Riff 1, April 13, 1938, 30 bbls 21-gr oil in 6 hrs, pumping; producing horizon 542-714 ft, total depth 716 ft. **Structure:** Plug. Domal type structure. **Elevation:** 905 ft. **Formation, Depth, Gravity:** Serpentine, 540 ft, 21-gr. **Productive Area:** 30 acres. **Development to July 1, 1939:** 9 wells; 4 oil, 5 failures. **Expected Ultimate Recovery:** 10,000 bbls. **Produced to January 1, 1939:** 975 bbls. **Remaining Reserve:** 9025 bbls. **Deepest Hole:** McCallum, Forber & Johnson's Riff 1, abnd 851 ft, Sept. 21, 1938, after slight oil show. **Development and Producing Methods:** 10-in, 20 ft; 5 3/16-in, 542 ft, well completed on pump making large volume of salt water. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** B. C. Mitchell, Ewing Oil Co., M. L. Walker, F. E. Heatley, Owen and Dean, D. W. Richardson.

INA

9 mi se Hondo, P. E. Darst, J. G. Durst, J. F. Brassier surveys. **Means of Discovery:** Geology, both surface and subsurface. **Discovery Data:** Ina Oil Co.'s Schmidt 1, Nov. 10, 1923, 20 bbls 19-gr oil per day, 844 ft. **Structure:** Faulting with lensing. **Elevation:** 720 ft. **Formation, Depth, Gravity:** Escendido sand, 800 ft, 19-gr. **Productive Area:** 340 acres. **Development to July 1, 1939:** 59 wells, 39 oil, 20 failures. **Expected Ultimate Recovery:** 680,000 bbls. **Produced to January 1, 1939:** 114,519 bbls. **Remaining Reserve:** 565,471 bbls. **Deepest Hole:** Witherspoon Oil Co.'s Schmidt 1, abnd 2270 ft in Edwards lime, top 2150 ft, Aug. 25, 1927. **Development and Producing Methods:** 10-in, 20 ft, 7-in atop sand and wells completed on pump from central powers. Loose soft sand gives considerable trouble in producing wells. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 1. **Principal Leaseholder:** Medina Production Co.

TAYLOR

5 mi sw Hondo, A. Bruchet and H. Castro surveys. **Means of Discovery:** Geology. **Discovery Data:** Medina Oil Co.'s Taylor 1, Feb. 2, 1936, 100 bbls 16-gr oil and 150 bbls water per day, 356 ft; later deepened to 1243 ft and abnd. **Structure:** Crevice and faulting. **Elevation:** 820 ft. **Formation, Depth, Gravity:** Navarro-Taylor, 350 ft, 16-gr. **Productive Area:** 30 acres. **Development to July 1, 1939:** 28 wells, 7 oil, 22 failures. **Expected Ultimate Recovery:** 33,042 bbls. **Produced to January 1, 1939:** 33,042 bbls. **Remaining Reserve:** Depleted. **Deepest Hole:** R. P. Whitfield's W. B. Odem 1, Henry Castro Survey No. 177, ne of Taylor field, elev 820 ft, abnd 1434 ft, March, 1937; Edwards lime topped at 1370 ft showed sulphur water. **Principal Leaseholder:** Medina Production Co.

MILAM COUNTY

MINERVA-ROCKDALE

Centering around Rockdale, J. A. DePena, W. Allen, S. P. Carson, C. S. Robertson, Jose Lease and other surveys. **Means of Discovery:** Geological information. **Discovery Data:** Oklahoma-Bell Oil Co.'s Isaacs 1, Feb. 17, 1921, 20 bbls 37.6-gr oil, 950 ft. **Structure:** Production from shale and sand lenses, varying up to 1100 ft in thickness, some faulting. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Navarro-Taylor, 950-1650 ft, 37.6-gr; also sand 650 ft 36 gr. **Productive Area:** 4250 acres. **Development to July 1, 1939:** 703 wells, 646 oil, 5 gas, 52 failures. **Expected Ultimate Recovery:** 4,250,000 bbls. **Produced to January 1, 1939:** 3,580,184 bbls. **Remaining Reserve:** 669,816 bbls. **Deepest Hole:** Texas Petroleum Dev. Co.'s Phillips 1, abnd 3711 ft. **Development and Producing Methods:** 5- and 7-in producing string atop producing section. Completion via pump from central power; considerable water from older wells. **Outlet:** Minerva Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Bartlett Prod. Co., Brady Bros., Fifer Caudle, Central Oil Co., Clear Lake Oil Co., H. H. Coffield, Minerva Refining Co., Coffield & Guthrie, Erie Investment Co., Ernest Oil Co., Glass Bros., Hefley, McIntosh & Thomas, W. A. Jones, Lanning & Coffield, McCormick & Noack, Minerva Petroleum Co., Newton & Palmer, Noack & Lanning, Freddie Palmer, Ramsel Oil Co., J. P. Sessions, McIntosh, Smith & Thomas, Strelsky, Joe Helley, Triangle Oil Co., Wahpoe Oil Co., J. C. Wallace, Wills Oil Co.

WHITE‡

Levi Taylor survey, n end of county. **Means of Discovery:** Geological data. **Discovery Data:** Milam Oil & Gas Co.'s White 1, Oct. 15, 1929, 750,000 cu ft gas per day, 1366 ft; producing horizon 1356-66 ft. **Structure:** Some faulting. **Elevation:** 500 ft. **Formation, Depth, Gravity:** Taylor Marl, 1350 ft, 16-gr, mostly gas. **Productive Area:** 50 acres, 40 gas, 10 oil. **Development to July 1, 1939:** 15 wells, 1 oil, 8 gas, 6 failures. **Expected Ultimate Recovery:** Primarily gas field. **Deepest Hole:** Wilson, Broach & Co.'s R. White 1, abnd 3154 ft, in Glen Rose, July 28, 1931. **Outlet:** Trucks. **Principal Leaseholders:** Milam Oil & Gas Co., Service Oil & Gas Co., Kingdorr Development Co.

* Prospect. ‡ Gas field.

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NUECES COUNTY

AGUA DULCE

1½ mi se Agua Dulce, Andres F. de la Fuente, Antonio Longorio, Puenticitas and adjoining grants. **Means of Discovery:** Geology. **Discovery Data:** Grimm & Yackey and Houston Oil Co.'s Anderson 1, Dec. 31, 1928, 30,000,000 cu ft gas, 2025 ft, elev 12½ ft. **Structure:** Elongated dome with approximately 80 ft of closure, pitches to the w indicating fault on that side of dome. **Elevation:** 10 to 100 ft. **Formation, Depth, Gravity:** Catahoula, 2000 to 2400 ft, gas; Frio, 4650 ft, 55-gr; 4800-4900 ft, 56-gr; 5300 ft, 40-gr oil, but other wells produce up to 58-gr dist; 5600 ft, 56-gr dist; 6740 ft, 60-gr dist. **Productive Area:** 11,200 acres, 8,000 dist, 11,200 gas, 3,200 acres undeveloped. **Development to July 1, 1939:** 86 wells; 41 oil, 31 gas, 14 failures. **Expected Ultimate Recovery:** 36,000,000 bbls. **Produced to July 1, 1939:** 657,689 bbls. **Remaining Reserve:** 35,342,311 bbls. **Deepest Hole:** Union Producing Co.'s Brown 1, Feb. 4, 1939, 13,728 ft, pb and perf 4585-4695 ft flowed dist. Elev 95 ft, top Heterostegina 3710 ft, top Frio 4240 ft, Vicksburg 7380 ft, Jackson 8261 ft, Hockley 8922 ft, Cockfield 10,584 ft, Yegua 12,000 ft. Deepest well in south Texas. **Development and Producing Methods:** 1000 to 1500 ft sur casing, producing string generally through sand and perforated. One gas plant removed distillate before gas run into pipe line; four recycling plants in operation or under construction. Majority of field unitized. **Outlets:** United Gas System, gasoline plants in field, loading racks. **Rigs Running July 1, 1939:** 4. **Principal Leaseholders:** Union Producing Co., G. P. Shelton, L. M. Lockhart, Agua Dulce Gas Co., Houston Oil Co., Texon Oil & Royalty Co., Parker, Foran & Knode. **Remarks:** Production includes North Agua Dulce.

BALDWIN (South Saxet)

2½ mi sw Clarkwood, BS&F 165, J. H. Smith, Wm. Coty, J. S. McGregor surveys. **Means of Discovery:** Geology. **Discovery Data:** Magnolia Petroleum Co.'s Baldwin 1, July 9, 1935, 432 bbls, ¼-in choke, 25.8-gr; total depth 3879 ft, producing horizon 2874-79 ft, elev 58 ft derrick floor, later put on pump and made 802½ bbls per day. **Structure:** Sand lensing, apparently some faulting. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Oakville 3250 ft, gas; Catahoula, 3880 ft, 25.8-gr., 4050 ft, 24.8-gr. **Productive Area:** 320 acres, 240 oil, 80 gas. **Development to July 1, 1939:** 14 wells, 7 oil, 1 gas, 6 dry. **Expected Ultimate Recovery:** 1,920,000 bbls. **Produced to July 1, 1939:** 624,411 bbls. **Remaining Reserve:** 1,295,589 bbls. **Deepest Hole:** Magnolia's Baldwin 2, abnd 6610 ft. **Development and Producing Methods:** 10-in, 1000 ft, producing string through sand, Majority of wells still flowing, although making considerable salt water. **Outlet:** Texas Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Gilcrease Oil Co., Tom Graham Oil Co., Magnolia.

CHAPMAN

3 mi sw London, centering around Sec. 38, Laureles Farm Tracts, Ramon de Ynojosa Grant. **Means of Discovery:** Geophysics. **Discovery Data:** I. J. Allen and Seaboard Oil Corp.'s Chapman 2, March 18, 1937, 125 bbls 42-gr oil per day ⅛-in choke, tubing pressure 625 lbs, casing pressure 675 lbs, sand 6464-84 ft, sandy shale 6484-6524, sand 6524-32 ft, drilled to 6717 ft, set casing 6588 ft and perforated 6460-67 ft. **Structure:** Probably sand lens on regional structural feature, subsequent development indicates lens rather small. **Elevation:** 40 ft. **Formation, Depth, Gravity:** Catahoula, 5050 ft, 41.8-gr; Frio, 6500 ft, 42-gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 13 wells, 4 oil, 9 failures. **Expected Ultimate Recovery:** 120,000 bbls. **Produced to January 1, 1939:** 43,850 bbls. **Remaining Reserve:** 76,150 bbls. **Deepest Hole:** I. J. Allen and Seaboard Corp.'s Chapman 1-B, abnd April 29, 1937, 7012 ft. **Development and Producing Methods:** 10¾-in, 1200 ft; 7-in through sand and perforated. High gas/oil ratio wells. **Outlet:** The Texas Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Seaboard Oil Corp.

CLARA DRISCOLL

1¾ mi ne Driscoll, centering around William Gamble Survey. **Means of Discovery:** Geological survey, subsurface information. **Discovery Data:** Santa Clara Oil Co.'s Sevier 1, Nov. 20, 1935, 1968 bbls 25.3-gr oil; 400 lbs tubing, 500 lbs casing pressures; total depth 3816 ft, producing horizon 3807-16 ft, 7-in casing 3808 ft. **Structure:** Sand lens on domal type structure. **Elevation:** 50 to 80 ft. **Formation, Depth, Gravity:** Catahoula, 3250 ft, gas; 3800 ft, 23.4-gr; Heterostegina 3900 ft, 27.8-gr; Frio, 4650 ft, 31.5-gr; 5100 ft, 37-gr; 5300 ft, 36-gr; 5400 ft, 31-gr; 5550 ft, 35-gr; 5650 ft, 36-gr. Intermediate lens and up dip portions of above sands produce gas and distillate. **Productive Area:** 980 acres, 720 oil. **Development to July 1, 1939:** 82 wells, 66 oil, 4 gas, 12 failures. **Expected Ultimate Recovery:** 6,624,000 bbls. **Produced to July 1, 1939:** 1,276,421 bbls. **Remaining Reserve:** 5,347,579 bbls. **Deepest Hole:** Buchanan et al's Gandy 1, 124.18 acre tr, section 56, Paul subdivision, Driscoll Ranch, 1¼ mi n field; abnd 7308 ft, Feb. 16, 1937, topped Heterostegina 4040 ft, Frio, 4130 ft. **Development and Producing Methods:** 10-in, 750 to 800 ft, producing string through sand and perforated. Wells flowing with exception of few in 3800-ft zone. Considerable water being produced. **Outlets:** Driscoll Pipe Line Co., Duval Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** R. B. Bryant, H. M. Crighton, E. A. Graham, Heep Oil Corp., Houston Oil Co., O. W. Killam, Magnolia Petroleum Co., Mid-Continent Petroleum Corp., Pan American Production Co., Phillips Petroleum Co., Reed & Cox, H. M. Reed, Stanolind Oil & Gas Co., Texas Conservative Oil Co., Wellington Oil Co.

FLOUR BLUFF

11½ mi sw Corpus Christi, Flour Bluff Encinal Garden Subdivision. **Means of Discovery:** Geophysical survey, geological information. **Discovery Data:** Hurlburt et al's Phillip 1, July 8, 1936, 213 bbls, 43.3-gr oil, 5/32-in choke; 900 lbs tubing, 1160 lbs casing pressures; total depth 7503 ft, producing horizon 6633-57 ft, plugged back and set casing 6850 ft, perforated 6633-43 ft, and 6647-57 ft. **Structure:** Anticline. **Elevation:** Sea level to 50 ft. **Formation, Depth, Gravity:** Marginulina, 6650 ft, 43.3-gr. **Productive Area:** 2380 acres. **Development to July 1, 1939:** 126 wells; 114 oil, 2 gas, 10 failures. **Expected Ultimate Recovery:** 5,236,000 bbls. **Produced to July 1, 1939:** 4,174,940 bbls. **Remaining Reserve:** 1,061,060 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in, 1000 ft; 5½- and 7-in atop sand in most wells, some through sand and perforated. Wells flowing and some showing little water. Tail gas run through absorption type gasoline plant. **Outlets:** Humble Pipe Line Co., Barnsdall Refining Co. gasoline line. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Barnsdall Oil Co., Costa Oil Co., Gem Oil Co., Humble Oil & Refining Co., Sinclair Prairie Oil Co., Flour Bluff Oil Corp.

LONDON

12 mi sw Corpus Christi, centering around Section 25, Laureles Farm Tracts, Ramon de Ynojosa Grant. **Means of Discovery:** Geology and geophysics. **Discovery Data:** Wellington Oil Co.'s Stockton 1, Jan. 24, 1937, 52 bbls 25.3-gr oil 5 hrs, ⅝-in choke; tubing pressure 150 lbs, casing pressure 750 lbs; drilled to 7005 ft, set 5½-in 6227 ft, perforated 4698-4703 ft. **Structure:** Nosing with sand lens. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Catahoula, 4700 ft, 25.3 gravity; 4750 ft, distillate; 4900 ft, distillate. Later sand likely at top of Discorbis. **Productive Area:** 120 acres, 60 oil and distillate, 60 gas. **Development to July 1, 1939:** 7 wells, 2 oil, 2 gas, 3 failures. **Expected Ultimate Recovery:** 210,000 bbls. **Produced to Jan. 1, 1939:** 50,775 bbls. **Remaining Reserve:** 159,225 bbls. **Deepest Hole:** E. M. Jones' Cooke 1, abnd 7424 ft, April 1, 1937. **Development and Producing Methods:** 10-in 500 ft, 5½-in through sand and perforated. High gas/oil ratio distillate sands make producing of area a problem: **Outlet:** Texas Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** J. W. Cosner, Wellington Oil Co., Gem Oil Co., Rowan & Hope, Atlantic Refining Co.

LUBY

Centering around se portion Tract 4, Block 2, Luby Subdivision Canutillo Colony Ditch Survey, 20 mi sw Corpus Christi. **Means of Discovery:** Geophysics, geological data based on nearby tests. **Discovery Data:** Seaboard Oil Corp.'s Luby 1, June 26, 1937, 156 bbls, 44.9 gravity oil per day 4/16-in choke; tubing pressure 1500 lbs, casing pressure 1710 lbs, drilled to 5332 ft, set 7-in 5175 ft, perforated 5048½-50½ ft, sand 5028-57 ft, gas/oil ratio 8000 to 1. **Structure:** Local high cut by two faults running east and west. **Elevation:** 40 ft. **Formation, Depth, Gravity:** Catahoula 4000 ft, 52 gr dist; 4300 ft, 51.6-gr; Heterostegina zone, 5050 ft, 49.3-gravity; 5150 ft, 50-gr. **Productive Area:** 2850 acres, 2200 oil, 650 undeveloped. **Development to July 1, 1939:** 127 wells, 123 oil, 4 failures. **Expected Ultimate Recovery:** 37,400,000 bbls. **Produced to July 1, 1939:** 1,930,596 bbls. **Remaining Reserve:** 35,469,404 bbls. **Deepest Hole:** Seaboard Oil Corp., Luby 7, abnd 7595 ft April 13, 1938. **Development and Producing Methods:** 1250 ft of 10-in, 5½-in producing string atop sand on some wells, through sand and perforated in others where gas/oil ratio may prove problem. All wells flowing, some making small amount of water. Absorption type of natural gasoline plant processing gas. **Outlets:** Amsco Pipe Line Co., Stanolind gasoline line. **Rigs Running July 1, 1939:** 4. **Principal Leaseholders:** McAlester Fuel Co., E. J. & W. S. McCurdy, Ohio Oil Co., Seaboard Oil Co., Stanolind Oil & Gas Co., Sun Oil Co. **Remarks:** Seaboard's Katherine L. Shaffer, drilled to 7311 ft Sept. 19, 1938, found gas sand 6824-54 ft, oil and water sand, showing 40-gr crude 7291-7311 ft. Other deep wells in field indicated crude sand at 5600 ft but no wells completed.

MINNIE BOCK

2 mi n Clara Driscoll field, 5½ mi sw Robstown, Joaquin Lopez de Herrera gr. **Means of Discovery:** Geophysics and trend play. **Discovery Data:** Texas Conservative Oil Co.'s Minnie Bock 1, May 31, 1939, 145 bbls 26.5-gr oil per day, ⅛-in choke; 1275 lbs tubing, 1575 lbs casing pressure; producing horizon 3805-35 ft, total depth 4051 ft, perforated 3806-14 ft. **Structure:** Sand lens on domal type structure. **Elevation:** 67 ft. **Formation, Depth, Gravity:** Catahoula, 3800 ft, 26.5-gr. **Productive Area:** 200 acres, 20 oil, 180 undeveloped. **Development to July 1, 1939:** 4 producers. **Expected Ultimate Recovery:** 180,000 bbls. **Produced to July 1, 1939:** 4339 bbls. **Remaining Reserve:** 175,601 bbls. **Deepest Hole:** Texas Conservative Oil Co.'s Humble 1, abnd 6005 ft, July 20, 1939. **Development and Producing Methods:** 10¾-in 714 ft, 7-in through sand and perforated. All wells flowing. **Outlet:** Duval Pipe Line Co. **Rigs Running July 1, 1939:** 4. **Principal Leaseholders:** Texas Conservative Oil Co., Sun Oil Co., Buchanan Production Co., Wellington Oil Co., Phillips Petroleum Co., The Texas Co., C. Andrade III, Ralph Fain Jr., E. A. Graham, Reed & Cox.

MUSTANG ISLAND*

8 miles from Port Aransas Pass on Mustang Island, in Gulf of Mexico, William Little Survey No. 59. **Means of Discovery:** Seismograph. **Development to July 1, 1939:** The Texas Co.'s Little 1, abnd Dec. 15, 1939, with junked hole, 7751 ft. **Principal Leaseholder:** The Texas Co.

NORTH AGUA DULCE

Just northeast Agua Dulce townsite in Agua Dulce Gr. **Means of Discovery:** Geophysics. **Discovery Data:** Union Prod. Co.'s Simmonds 1, March 3, 1938, 60 bbls 48.2-gr oil per day, ¼-in choke; 1820 lbs tubing, 1925 lbs casing pressures; producing horizon 4810-34 ft, total depth 8706 ft, perforated 481-34 ft with 100 shots. **Structure:** Domal shaped anticline with faulting to east. **Elevation:** 104 ft. **Formation, Depth, Gravity:** Frio, 4810 ft, 48.2-gr, 5575 ft, 48-gr. **Productive Area:** 1000 acres, 320 oil and distillate, 680 undeveloped. **Development to July 1, 1939:** 4 wells,

* Prospect. ‡ Gas field.

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3 oil, 1 failure. **Expected Ultimate Recovery:** See Agua Dulce report for reserves. **Deepest Hole:** Discovery. **Development and Producing Methods:** 13⅜-in 1500 ft; producing string through sand and perforated; bottom hole pressure estimated 2000 lbs. Oil well jetting and showing water. Distillate wells flowing naturally. Distillate wells will be connected to recycling plant. **Outlets:** United Gas System, trucks. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Sun Oil Co., Mid-Continent Petroleum Corporation, Gulf Oil Corp., Union Producing Co., Southern Minerals Corp., Invincible Oil Co., Shell Oil Co., Stanolind Oil & Gas Co.

NORTH LUBY

10 mi w Chapman Ranch, 1½ mi n Luby field, blk 9, Roberts & White subd, Robert Schallert Share 3-G, Anna Collins Petronilla Ranch. **Means of Discovery:** Geophysics. **Discovery Data:** Seaboard Oil Corp.'s LaPrelle 1, May 19, 1939, 175 bbls 51-gr oil per day, ⅛-in choke; 225 lbs tubing and 1200 lbs casing pressure; producing horizon 4345-61 ft, total depth 7440 ft, perforated 4347-54 ft, 36 shots. **Structure:** Local high on a regional feature, probably some faulting. **Elevation:** 54 ft. **Formation, Depth, Gravity:** Miocene, 4345 ft, 51-gr. **Productive Area:** 320 acres; 20 oil, 300 undeveloped. **Development to July 1, 1939:** 1 oil, 1 failure. **Expected Ultimate Recovery:** 130,000 bbls. **Produced to July 1, 1939:** 3313 bbls. **Remaining Reserve:** 126,687 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in 1224 ft, 5½-in 4370 ft, perforated for completion. **Outlet:** Amsco Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Seaboard Oil Corp., Stanolind Oil & Gas Co., Joe Cosner, George Buescher, Gulf Oil Corp., Tide Water Associated Oil Co., H. H. Weinert, Sinclair Prairie Oil Co., Magnolia Petroleum Co.

RANSOM ISLAND*

Ransom Island, 2 miles se Aransas Pass, and in State Tracts centering around No. 320 in Red Fish Bay. **Means of Discovery:** Offshore geophysics. **Development:** Coastline Oil Corp.'s State 1, sd Aug. 1, 1938, at 8660 ft, tested salt water with oil shows between 7330 and 8570 ft in Basal Marginulina and Upper Frio. Will be deepened at later date to 10,000 ft. **Principal Leaseholders:** Barnsdall Oil Corp., Shell Oil Co., Coastline Oil Corp.

RIVERSIDE

8 mi nw Robstown, Jose Vicente Lopez de Herrera gr. **Means of Discovery:** Geophysics and geology. **Discovery Data:** Seaboard Oil Corp.'s Wilson 1, Nov. 26, 1938, blew out while drilling 6541 ft, cratered and burned. Stanolind Oil & Gas Co., Dec. 13, 1938, pb from 7015 ft, perforated 4888-93 ft and flowed 2,000,000 cu ft gas, 12/64-in choke; 1450 pounds tubing, 1550 pounds casing, 1850 pounds closed in pressure; sand 4881-5003 ft. Seaboard's Wilson 2, Feb. 10, 1939, 124 bbls oil per day, 7/64 and 6/64-in chokes from perf 4996-99½ ft. **Structure:** Domal anticline with faulting. **Elevation:** 35 ft. **Formation, Depth, Gravity:** Frio, 5000 ft, 51-gr. **Productive Area:** 600 acres, 20 oil, 500 gas, 80 undeveloped. **Development to July 1, 1939:** 10 wells, 2 oil, 1 gas, 7 failures. **Expected Ultimate Recovery:** 90,000 bbls. **Produced to July 1, 1939:** 14,371 bbls. **Remaining Reserve:** 75,629 bbls. **Deepest Hole:** Shell Oil Co.'s Griffith 1, abnd April 4, 1939, 7510 ft. **Development and Producing Methods:** 13⅜-in 1550 ft, 7-in through sand and perforated. Themendous gas volume has affected production of crude oil. **Outlet:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Seaboard Oil Co., O. W. Killam, Renwar Oil Corp., Shell Oil Co., Tidewater Associated Oil Co., Hewitt & Dougherty, Darby Pet. Co., The Texas Co., Wellington Oil Co., Cities Service Oil Co., Conroe Drilling Co.

ROBSTOWN

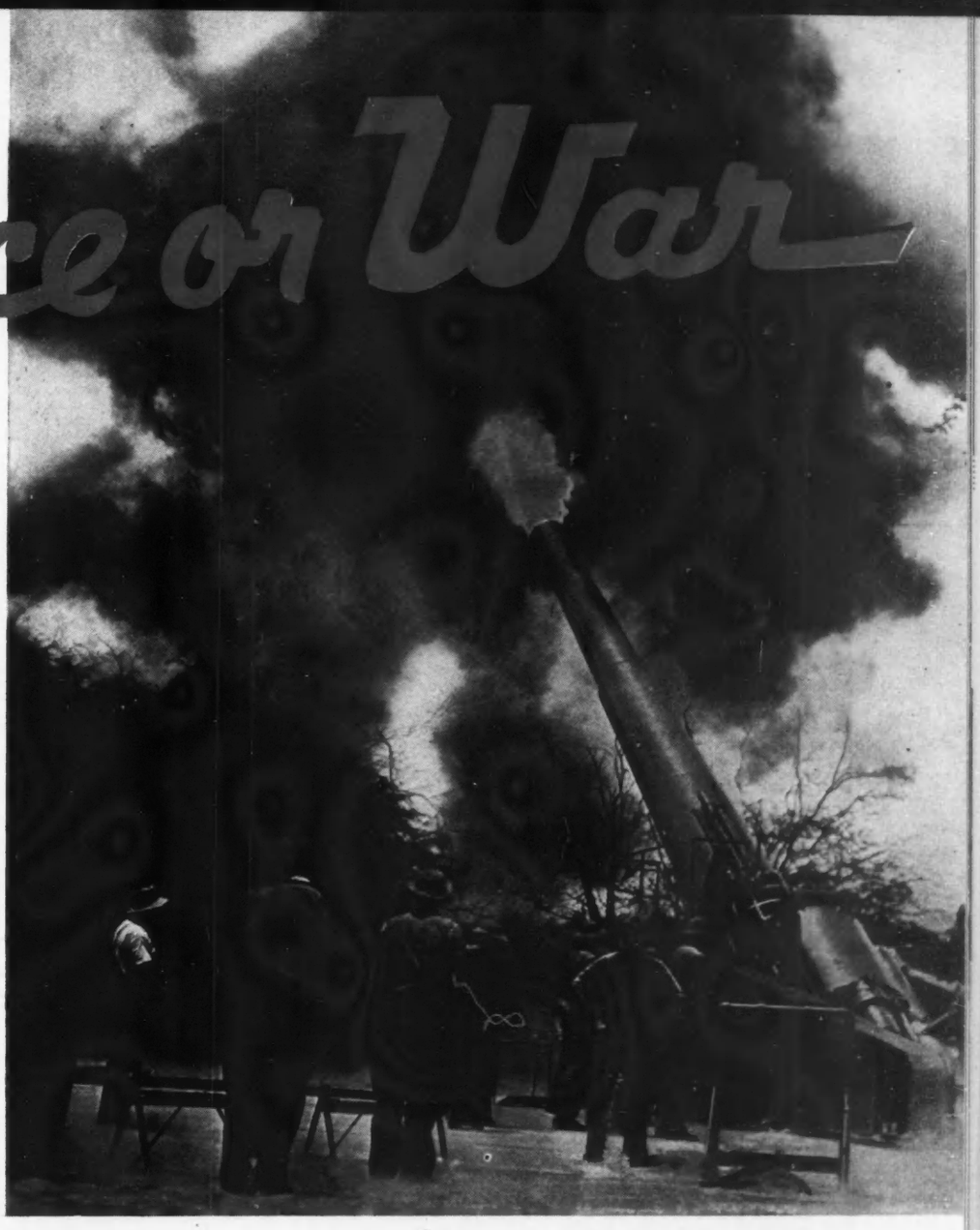
2 mi nw Robstown, centering around nw corner Block 10, Pauls subdivision, Driscoll Ranch. **Means of Discovery:** Geophysics. **Discovery Data:** Fred Shield's Texas Rural Community 1, Sept. 10, 1939, flowed 95 bbls per day 9/64-in choke; 1450 lbs tubing, 2000 lbs casing pressures; total depth 7088 ft, plugged back and perforated 5560-66 ft, producing horizon 5548-82 ft. **Structure:** Nosing on regional anticline. **Elevation:** 88 ft. **Formation, Depth and Gravity:** Frio, 5550 ft, 42.6 gr. **Productive Area:** 40 acres. **Expected Ultimate Recovery:** No estimate. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in, 1800 ft, producing string through sand and perforate to cut off gas. Gas/oil ratio, 5000 to 1 on discovery. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Fred Shield, Stanolind Oil & Gas Co., Cities Service Oil Co., Arkansas Fuel Oil Co., Tidewater Associated Oil Co., Magnolia Petroleum Co., Sun Oil Co., W. L. Pickens, Fohs Oil Co., Shell Oil Co., Mills Bennett, Coronado & Seaboard, The Texas Co., Conroe Drilling Co., Felmont Corp., Gulf Oil Corp., Cary Mayer.

SAXET

Includes sections 421, 482, 416, 406, 403, 404, 405, 499, 410, 411, 415, 401, 407, 402, 315, 316, W. S. McGregor survey, J. Ward survey, Rincon del Oso, J. Frank, E. Villareal, J. Dunn, A. Roberts, H. B. Shepherd and H. L. Kinney Surveys, Sections 591, 312, 689, 211, 5, etc., 5 mi sw Corpus Christi. **Means of Discovery:** Geological information led to discovery of shallow gas. **Discovery Data:** Saxet Oil Co.'s Dunn 1, Jan. 18, 1923, 35,000,000 cu ft gas 2408 ft, sand 2288-2408 ft. **Structure:** Elongated dome, sand lensing. Considerable faulting through field with production on both sides of fault. **Elevation:** 20 to 80 ft. **Formation, Depth, Gravity:** Shallow gas from Oakville and oil and gas sands continue into Frio. Individually discussed in accompanying reports on Saxet Deep and Saxet Shallow areas. **Productive Area:** 17,400 acres, 6180 oil, 14,000 gas, 4200 undeveloped. **Development to July 1, 1939:** 845 wells, 706 oil, 55 gas, 84 failures. **Expected Ultimate Recovery:** 84,048,000 bbls. **Produced to January 1, 1939:** 37,730,356 bbls. **Remaining Reserve:** 46,317,644 bbls. **Deepest Hole:** Richardson Pet. Co.'s Harrell 3, abnd Feb. 15, 1939, 10,042 ft. **Development and Producing Methods:** 16-in 150 to 350 ft, 10¾-in 1000 to 2000 ft; 5½- to 7-in generally atop sand in shallower

* Prospect. ‡ Gas field.

Peace or War



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zones and through sand in deeper pays, perforated for production. Majority of shallower wells are on pump or artificial lift. Deeper wells still flowing. Many wells making considerable water. Gas from producing oil wells run through absorption natural gasoline plant in field. Condensate wells providing fuel for drilling and jetting of many tests. **Outlets:** Southern Minerals Corp., Taylor Refining Co., Republic Pipe Line Co., Crude Oil Pipe Line Co., Potter Pipe Line Co., Texas Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 5. **Principal Leaseholders** Allen & Morris, C. Andrade, Antex Prod. Co., Baltic Drilling Co., Barnsdall Oil Co., Benson & Corgey, R. B. Bryant, Bryant & Howell, Crown Central Pet. Co., Donico Production Co., Gilcrease Oil Co., Lonnie Glasscock, Tom Graham, Great States Oil Corp., Hiawatha Oil & Gas Co., B. H. Hilburn, W. B. Hinton, Houston Oil Co., Kepley Prod. Co., Magnolia Pet. Co., The Maryland Corp., Mills Bennett Prod. Co., Morgan Gulf Oil Co., North Star Oil Corp., Oso Drillers, Pan American Prod. Co., Grady Peeler, Phillips Pet. Co., Potter-Snowden, Inc., Republic Natural Gas Co., Wray Richards, Richardson Pet. Co., Jay Simmons, Shell Oil Co., Sinclair Prairie Oil Co., B. F. Smith, Southern Minerals Corp., Sultex Oil Co., Texas Conservative Oil Co., Tule Lake Oil Co., Texon Drilling Co., Warner-Quinlan Co., Western Gulf Pet. Corp. **Remarks:** Includes both shallow and deep areas and districts commonly referred to as Buckholts, Clarkwood, Old Saxet, New Saxet, and Saxet deep.

SAXET DEEP

Centering around north, northwest and western portion of Saxet field. **Means of Discovery:** Deeper drilling on structural features developed as result of shallower completions. **Discovery Data:** A. F. Holliday's J. Griffith 1, July 5, 1935, 2,500,000 cu ft gas and spraying 35 bbls 38.9-gr oil per day, ¼-in choke; 1975 lbs equalized pressure; total depth 5602 ft, sand 5598-5602 ft. **Structure:** Anticlinal, cut by faulting. **Formation, Depth, Gravity:** Frio, 5500 ft, 38.2 gr; 5550 ft, 44 gr; 5600 ft, 38.9 gr; 5770 ft, 48-58 gr; 5850 ft, 39.9 gr; 6300 ft, 58.5 gr 6460 ft, 41 gr; 6700 ft, 48 gr; 6850 ft, 41.8 gr; 6950 ft, 40.5 gr; 7300 ft, 56 gr distillate; Vicksburg (?), 9900 ft, 58-gr distillate. **Remarks:** This is supplementary to Saxet general coverage. See that report for further details. This area is one of the most important producing areas along the South Texas Gulf Coast. Oct. 26, 1938, Richardson Pet. Co.'s Cain and Sechrist 24, at southeast side of deep field blew out and stuck drill stem while drilling at 9927 ft. It flowed 175 barrels of distillate per day through 3/16-in choke under 3400 pounds working pressure, apparently from the Vicksburg formation. If so, this would be the first Vicksburg down dip from the shore line trend. This, likewise, is the deepest production in South Texas.

SAXET SHALLOW

Centers around south and eastern portion of Saxet field. Shallow gas covers entire Saxet field. **Means of Discovery:** Geological work. **Discovery Data:** Saxet Oil Co.'s Dunn 1, Jan. 18, 1923, 35,000,000 cu ft gas per day; total depth, 2408 ft, sand 2288-2408 ft. **Structure:** Anticlinal dome with considerable faulting. **Formation, Depth, Gravity:** Oakville-Catahoula, 1000-2800 ft, series of gas sands (main one at 2280 ft); 3150 ft, 24 gr, 3900, 4000 4300, 4400, 4500, 4700, 4800, 24-25 gr. Series of sand lenses in latter group, plus faulting makes definite determinations of these sands impossible. **Remarks:** This is supplementary to Saxet general coverage. See that report for further details.

SAXET HEIGHTS (Corpus Christi)

E. Villareal Survey and residential subdivision extending west from Corpus Christi. **Means of Discovery:** Geological information. **Discovery Data:** J. K. Culton's Baldwin 1, Nov. 2, 1935, 2,000,000 cu ft gas, 62 bbls 25-gr oil, 5/32-in choke; 1350 lbs tubing, 1650 lbs casing pressure; total depth 4082 ft, producing horizon 4076-82 ft. **Structure:** Sand lensing on anticlinal or domal type structure. **Elevation** 10 to 60 ft. **Formation, Depth, Gravity:** Catahoula, 4100 ft, 25 gr; Heterostegina, 5150 ft, 36.5 gr. **Productive Area:** 1120 acres, 1120 oil, 820 gas. **Development to July 1, 1939:** 268 wells, 249 oil, 3 gas, 16 failures. **Expected Ultimate Recovery:** 9,072,000 bbls. **Produced to July 1, 1939:** 6,569,216 bbls. **Remaining Reserve:** 2,502,784 bbls. **Deepest Hole:** Taylor Petroleum Co.'s Corpus Christi Country Club 7, 83.5-acre tract, Villareal grant, abnd 7531 ft, March 21, 1937. **Development and Producing Methods:** 10-in, 600 ft, 5-in through sand and perforated. Majority of wells jetting and making considerable water. **Outlets:** Potter Pipe Line Co., Texas Pipe Line Co., Corpus Christi Refining Co., Taylor Refining Co., Republic Pipe Line Company, Southern Pipe Line Co., Saxet Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Blundell & Moore, Cox & Graham, J. K. Culton, H. E. De Lee, Gibraltar Oil Co., Lonnie Glasscock, Tom Graham, H. N. B. H. Corp., D. H. Hawn, Kenridge Oil Co., Laguna Oil Co., Maryland Corp., Mid-American Oil Corp., Morgan Brothers, Pedernal Oil Co., Petter-Snowden Inc., Port Oil & Gas Co., H. M. Reed, Republic Natural Gas Co., Richardson Petroleum Co., Rico Oil Co., Roosth & Genecov, Southern Minerals Corp., C. E. Starrett, Sunset Oil Co., Taylor Petroleum Co., Taylor Refining Co., A. R. Temple, Westgate Oil Co.

SOUTH AGUA DULCE

7 mi sw Banquette, Palo Alto and Longoria Gr. **Means of Discovery:** Geophysical information and geological data on basis wells drilled in vicinity of Agua Dulce field. **Discovery Data:** Texon Royalty Co.'s Austin 1, Oct. 6, 1936, 100 bbls, 43-gr oil through ¼-in choke, 5836 ft; tubing pressure 1600 lbs, casing pressure 2000 lbs. **Structure:** Nosing and sand lensing on general anticline. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Frio, 5800 ft, 43 gr; 6400 ft, distillate; 6800 ft, gas and distillate. **Productive Area:** 1800 acres, 160 distillate, 800 gas, 840 undeveloped. **Development to July 1, 1939:** 9 wells; 4 oil, 2 gas, 3 failures. **Expected Ultimate Recovery:** Included in Agua Dulce. **Produced to January 1, 1939:** included in Agua Dulce. **Deepest Hole:** Lockhart Bros., Eliff 1, 3054.9-ac tr, Antone Longoria survey, March 3, 1937, 5 bbls distillate per hour through perforations 6410-20

* Prospect. ‡ Gas field.

ft, ⅛-in choke, tubing pressure 2300 lbs, total depth 6912 ft. **Outlets:** United Gas System taking gas, loading rack at railroad for oil. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Texon Royalty Co., Conroe Drilling Co., L. M. Lockhart, Mid-Continent Petroleum Corp., Lonnie Glasscock, Houston Oil Co., Stanolind Oil & Gas Co., H. S. Moss et al.

SOUTH CLARA DRISCOLL

Section 125, George H. Pauls Sub. Driscoll Ranch, 2 mi s Driscoll. **Means of Discovery:** Geological and geophysical information, in trend with production in Driscoll field. **Discovery Data:** Wellington Oil Co. and Seaboard Oil Corp.'s Dugger 1, May 5, 1937, 7 bbls 26-gr oil per hour, 2/16-in choke; tubing pressure 450 lbs, casing pressure 1000 lbs, sand 3917-29½ ft. **Structure:** Sand lensing along general high probably shore line proposition. **Elevation:** 70 ft. **Formation, Depth, Gravity:** Catahoula, 3450 ft, gas; Heterostegina, 3900 ft, 26 gr; Frio, 4600 ft, 32 gr; 5000 ft, dist; 5150 ft, 37 gr; 5300 ft, 36 gr; 5400 ft, 31 gr; 6550 ft, 37 gr. Other sand lenses in above group producing gas and distillate. **Productive Area:** 800 acres, 360 oil, 200 gas, 440 undeveloped. **Development to July 1, 1939:** 21 wells; 19 oil, 1 gas, 1 failure. **Expected Ultimate Recovery:** 3,960,000 bbls. **Produced to July 1, 1939:** 293,420 bbls. **Remaining Reserve:** 3,666,580 bbls. **Deepest Hole:** Wellington Oil Co's Richardson 1, April 5, 1939, 7560 ft, plugged back, perforated 6557-66 ft, flowed 151 bbls 37-gr oil, ¼-in choke; 200 lbs tubing, 475 lbs casing pressures, opened new sand. **Development and Producing Methods:** 10-in 750 to 1000 ft, 7-in through sand and perforated. Wells are flowing. **Outlets:** Crude Oil Pipe Line Co., Duval Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** O. W. Killam, Navarro Oil Co., Reed & Cox, Sun Oil Co., The Texas Co., Wellington Oil Co., Texas Conservative Oil Co., Pan American Prod. Corp.

STRATTON

8 mi n Kingsville, Sections 12 and 13 C. E. Stratton Subdivision. **Means of Discovery:** Geophysics. **Discovery Data:** Stanolind Oil & Gas Co.'s Stratton 1, Dec. 18, 1931, 4,000,000 cu ft wet gas, sandy lime 4788-4801 ft, 5½-in casing 4770 ft, 550 lbs working pressure on 5/16-in choke, built up pressure of 1850 lbs, closed in, well later deepened to 5002 ft. **Structure:** Domal type structure, sand lensing. **Elevation:** 110 ft. **Formation, Depth, Gravity:** Frio 4800 ft, 58 gr; 6000 ft, 49.3 gr; 6300 ft, 56 gr; 6480 ft, 54 gr. All sands producing distillate. **Productive Area:** 5200 acres, 4000 distillate, 1200 undeveloped. **Development to July 1, 1939:** 10 wells, 8 oil, 1 gas, 1 failure. **Expected Ultimate Recovery:** 12,800,000 bbls. **Produced to July 1, 1939:** 326,012 bbls. **Remaining Reserve:** 12,473,988 bbls. **Deepest Hole:** Stanolind Oil & Gas Co.'s Stratton 2, abnd 6904 ft, Oct 12, 1934; sand 6303-14 ft showing for gasser spraying distillate. **Development and Producing Methods:** 10¾-in 1000 to 1500 ft, 5½-in through sand and perforated. Field operated as one unit with recycling plant. **Outlets:** Corpus Christi Corp. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Corpus Christi Corporation, Texon Oil & Royalty Co.

TURKEY CREEK (West Saxet)

12 miles west Corpus Christi, including BS&F No. 417, 419, D. Martinez 420, P. Hinojosa No. 422, No. 417, AB&M Surs No. 411 and 415. **Means of Discovery:** Seismograph. **Structure:** Local closure against fault of 500-ft displacement at west edge of Saxet field. **Discovery Data:** Douglas et al's McKenzie 1, Jan. 4, 1938, 5813 ft, flowed 571 bbls; ¼-in choke; 1400 lbs tubing, 1600 lbs casing pressure; perforated 5810-12 ft, producing horizon in Frio 5794-5813 ft, top of Frio 4515 ft. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Catahoula, 3850 ft, 22.6 gr; 4080 ft, 23 gr; Frio, 5650 ft, 43 gr; 5800 ft, 35.2 gr; 6450 ft, 28 gr. **Productive Area:** 720 acres, 640 oil, 400 gas, 80 acres expected to be developed in oil. **Development to July 1, 1939:** 75 wells, 62 oil, 1 gas, 12 failures. **Deepest Hole:** Phillips Petroleum Co.'s Morgan 1-a, abnd April 22, 1938, 7001 ft. **Expected Ultimate Recovery:** 7,808,000 bbls. **Produced to Jan. 1, 1939:** 1,238,708 bbls. **Remaining Reserve:** 6,569,292 bbls. **Development and Producing Methods:** 10¾-in, 800 ft, producing string through sand and perforated. Practically all wells flowing with several showing some salt water. **Outlet:** Southern-Phillips Pipe Line. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Southern Minerals Corp., Phillips Petroleum Co., Renwar Oil Co., L. A. Douglas, C. Andrade III, Royal & Rutherford, Rand Morgan.

REFUGIO COUNTY

CRANELL*

10 mi w Woodsboro, centering around eastern portion of R. Downey sur. **Means of Discovery:** Seismograph by Humble Oil & Refining Co. **Development to July 1, 1939:** Humble Thompson 3, abnd June 27, 1939, 5503 ft. Drill-stem test 5902-10 ft recovered 20 ft mud with distillate odor, 500 lbs pressure, 5 minutes; drill stem test 5910-16 ft recovered 580 ft of salt water, 425 lbs pressure, 19 minutes. Sandy section 6156-64 ft had oil show. Thompson 4, abnd August 17, 1939, 6374 ft. Thompson 5; abnd Sept. 18, 1939, 6345 ft. **Principal Leaseholders:** Humble.

FOX

3 mi ne Refugio, Hews & Brown Sur. **Means of Discovery:** Geological information, based on subsurface information and surface indications, dip in Lissie, Beaumont contract. **Discovery Data:** United Production Co.'s Fox 1-A, May 14, 1931, 672 bbls 58-gr oil, 5886 ft; 5½-in casing 5877 ft, sand 5878-86 ft; tubing 675 lbs, casing 725 lbs, ¼-in chokes. **Structure:** Domal type structure, sand lenses rather spotted. **Elevation:** 65 ft. **Formation, Depth, Gravity:** Catahoula, 3500 ft, gas; Heterostegina, 4975 ft, gas; Frio, 5875 ft, 38.5 gr; 6475 ft, 23.5 gr. **Productive Area:** 920 acres, 600 oil, 920 gas, 320 undeveloped. **Development to July 1, 1939:** 16 wells; 13 oil, 1 gas, 2 failures. **Expected Ultimate Recovery:** 10,200,000 bbls. **Produced to July 1, 1939:** 3,070,147 bbls. **Remaining Reserve:** 7,129,853 bbls. **Deepest Hole:** United Prod. Co.'s Fox 20, drilled to 7305 ft, Oct. 31, 1937, perforated 6464½-72, flowed 210 bbls, 3/16-in choke; 535 pounds tubing, 925 pounds casing pressures. **Development and Producing Methods:** 10-in, 1000 ft, 5½ to 7-in producing string through sand and perforated. All wells flowing. **Outlets:** Atlantic Pipe Line Co., Humble Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Hewitt & Dougherty, Houston Oil Co., Union Producing Co.

GRETA

E. H. Winfield, John Peoples, M. S. Ximenes, N. S. Crunk, Hughes & Brown, James T. McGrew and C. A. Hardwick Surs., centering around town of Greta. **Means of Discovery:** Geological data and trend play, abnormal swing in Lissie gravels into Beaumont clay. **Discovery Data:** Smith et al's O'Brien 1, May 27, 1933, 530 bbls 21.6-gr oil; 4403 ft sand 4376-4403 ft, ¼-in choke. **Structure:** Domal type structure with several sand lenses. Deep horizon on se flank of structure, 3600-ft sand on extreme s flank, 4400-ft sand general, but broken up with breaks of shale and other materials. Number of shallow gas sands also general. Axis north and south. **Elevation:** 70 ft. **Formation, Depth, Gravity:** Oakville-Catahoula, 1730 ft, 2100 ft, 2400 and 3800 ft, (intermediate levels) gas; 3500 ft, 21 gr; Heterostegina, 4400 ft, 21.6 gr; Frio, 5100 ft, gas, and distillate; 5600-5700 ft, 61.7 gr; 5800-5900 ft, 38.5 gr; 6250 ft, 35.5 gr. **Productive Area:** 4900 acres, 4240 oil, 4400 gas. **Development to July 1, 1939:** 247 wells, 221 oil, 8 gas, 18 failures. **Expected Ultimate Recovery:** 80,560,000 bbls. **Produced to January 1, 1939:** 23,403,108 bbls. **Remaining Reserve:** 57,156,892 bbls. **Deepest Hole:** E. M. Jones' O'Brien 11-a, Dec. 12, 1935, through perforations 5090-5160 ft as wet gasser. Had drilled to 7461 ft, in Vicksburg. **Development and Producing Methods:** 10-in 1000 ft, producing string atop sand to shallower zones, through sand and perforated in lower sands. Majority of wells flowing, some on pump making water. **Outlets:** Atlantic Pipe Line Co., Humble Pipe Line Co., Texas Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Atlantic Refining Co., Barnsdall Oil Co., Blanco Oil Co., Hewitt & Dougherty, Humble Oil & Refining Co., Edwin M. Jones, Martex Oil Co., Stanolind Oil & Gas Co., Union Producing Co., Windsor Oil Co.

LA ROSA

4½ mi sw Woodsboro, Sec 46, Bonnie View Ranch subd., Jose Miguel and Jose Marie Aldrete gr. **Means of Discovery:** Geophysical survey, trend drilling and subsurface correlations. **Discovery Data:** I. J. Allen's Rooke 2; July 24, 1938, 32 bbls. 51.7-gr dst. per day, 5/32-in choke; 2140 lbs tubing, 2190 lbs casing pressure; producing horizon 5382-5410 ft, total depth 6907 ft, plugged back perforated 5395-5400 ft with 20 shots. **Structure:** Faulted anticline. **Elevation:** 51 ft. **Formation, Depth, Gravity:** Frio, 5360 ft, 51.7-gr dist; 5420 ft, 36-gr; 5700 ft, 37-gr; 5900 ft, 36.8 gr; 6100 ft, 36 gr; 6300 ft, 37.3 gr. **Productive Area:** 3600 acres, 1220 oil, 2200 gas, 2380 undeveloped. **Development to July 1, 1939:** 56 wells; 50 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** 19,520,000 bbls. **Produced to July 1, 1939:** 81,709 bbls. **Remaining Reserve:** 19,438,291 bbls. **Deepest Hole:** Hewitt & Dougherty's Rooke 1-A, abnd 7021 ft, March 3, 1939. **Development and Producing Methods:** 10¾-in, 1100 to 1300 ft, 5½- and 7-in producing strings set through sand. All wells flowing with only small amount of water showing in several wells. Absorption type natural gasoline plant planned. **Outlets:** La Rosa Pipe Line Co., Southern Pipe Line Co. **Rigs Running July 1, 1939:** 6. **Principal Leaseholders:** Coronado Corp., Trinity Petroleum Co., Phillips Petroleum Co., Pat Rutherford, Barnsdall Oil Co., F. X. Shield, Allen & Morris, Benson & Jones, Morgan Gulf Oil Corp., Hewitt & Dougherty, T. P. Morgan, Houston Oil Co.

MELON CREEK

Tim Hoyt sur, 3 mi sw Tomoconnor field. **Means of Discovery:** Reflection seismograph. **Discovery Data:** Copano Oil Co.'s Tom O'Connor C-1, Feb. 13, 1939, 379.6 bbls 37.5-gr oil, 3/16-in choke; 1300 lbs tubing, 1900 lbs casing pressure; producing horizon 5854-78 ft, total depth 5878 ft, perforated 5855-75 ft with 48 shots. **Structure:** Likely domal anticline. **Elevation:** 43 ft. **Formation, Depth, Gravity:** Frio, 5850 ft, 37.5 gr. **Productive Area:** 800 acres, 210 acres oil, 590 undeveloped. **Development to July 1, 1939:** 11 wells, 8 oil, 3 failures. **Expected Ultimate Recovery:** 2,940,000 bbls. **Produced to July 1, 1939:** 45,851 bbls. **Remaining Reserve:** 2,894,149 bbls. **Deepest Hole:** Quintana Petroleum Corp.'s Tom O'Connor B-2, abnd 9937 ft, April 8, 1939, top Vicksburg 7700 ft, apparently still in that formation at bottom of hole. **Development and Producing Methods:** 10¾-in, 1365 ft, 5½-in atop sand in some wells, through it and perforated in others. All wells flowing, several making some water. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Copano Oil Co. and Quintana Petroleum Corp.

GULF-O'CONNOR*

Southeast corner of 32,404-acre ranch in CEPI&M Sur. No. 254, near Goliad-Victoria county line. **Means of Discovery:** Geological information. **Development:** Gulf Oil Corp.'s O'Connnor 2 Sept. 16, 1932, 50,000,000 cu ft gas per day with 2000 lbs rock pressure; total depth 5710 ft, sand 5703-10 ft, elevation, 89 ft, drilled deeper, abnd 6860 ft, Feb. 15, 1933. Other well was a failure. Randon Oil Co. and American Liberty Oil Co. made drill-stem test in Vicksburg 5729-68 ft, recovering 2900 ft of salt water with small scum of oil in top fourble and small amount of gas in 20 minutes, the well being J. Vicent 1 in Block 9, Vicent Lands, CEIP&M Sur. No. 41. Subsequent exploration has failed to open field.

O'CONNOR

John Keating, F. Rios and Power & Hewitson Surs., near Victoria County line. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** Humble Oil & Refining Co.'s M. V. O'Conner 1, Dec. 1, 1931, 200 bbls 42-gr oil, 4155 ft, sand 4133-55 ft, did not hold up production. **Structure:** Produc-

* Prospect. ‡ Gas field.

tion on upthrow side of large fault with displacement of more than 450 ft. Downthrow side of fault to se. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Catahoula, 2240 ft, gas; 3150 ft, 21 gr; Frio, 4150 ft, 42 gr. **Productive Area:** 250 acres, 140 oil, 110 gas. **Development to July 1, 1939:** 21 wells, 14 oil, 5 gas, 2 failures. **Expected Ultimate Recovery:** 1,260,000 bbls. **Produced to July 1, 1939:** 499,145 bbls. **Remaining Reserve:** 760,855 bbls. **Deepest Hole:** Humble's M. V. O'Connor 3, March 11, 1933, 6860 ft; plugged back to 2879 ft, side-tracked and drilled to 3138 ft; sand 3130-38 ft, set 5-in 3125 ft; initial production 203 bbls 21 gr oil daily, ⅝-in choke; tubing pressure 220 lbs, casing pressure 180 lbs. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble.

REFUGIO

Refugio Town Tract, Thomas Mullin, Manuel Arocha, Isabella Sur., centering around Refugio. **Means of Discovery:** Geological study, presence of gas in shallow water wells. Oil discovered by deepening shallower gas failure. **Discovery Data:** The Gulf Gas Association's F. V. W. Heard 1, Sept. 1920, 50,000,000 cu ft gas, 1902 ft. **Structure:** Domal type structure of large consequence, with series of sand lenses dipping off on the flanks, and spotted. Large domal proposition with minor saddles. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Oakville-Catahoula, eight lenses between 1900 and 3400 ft, all gas; sand group 3600-3900 ft, gas in some portions of field, oil of 25 gr elsewhere; Frio, 4900 ft, 31.4 gr; 5450 ft, 36.5 gr; 5500 ft, 32 gr; 5800 ft, 38.9 gr; 6200 ft, 38.1 gr; 6500 ft, 42 gr; 6600 ft, 44 gr; 6780 ft, 56 gr; 7100 ft, 52 gr; 7700 ft, 38.5 gr. Latter sand may be in top of Vicksburg. Distillate produced in these sands in some portions of the field. **Productive Area:** 6450 acres, 3820 oil, 6450 gas, 1000 undeveloped. **Development to July 1, 1939:** 586 wells, 424 oil, 88 gas, 75 failures. **Expected Ultimate Recovery,** 51,570,000 bbls. **Produced to July 1, 1939:** 36,026,160 bbls. **Remaining Reserve:** 15,543,840 bbls. **Deepest Hole:** United Producing Co.'s O'Brien 12, 9925 ft, plugged back and completed August 15, 1936; flowed 131 barrels per day, ¼-in choke, from perforations 7103-14 ft. **Development and Producing Methods:** Present new wells directed to deep sands which carry high gas/oil ratios. Old wells being reworked. 10-in, 1000 ft, producing string through sand and perforated. Several natural gasoline plants in field. **Outlets:** Humble Pipe Line Co., Atlantic Pipe Line Co., Houston Pipe Line Co., Texas Pipe Line Co., local buyers; 2 Service Co. taking gas. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Azalee Morgan, W. F. Morgan, F. B. Rooke, P. H. Rooke, Wilson Heard, W. L. Rea, J. A. Lambert, Fannie Heard, Tom Heard, H. J. Ryals, Mission River, Benson & Jones, The Clymore Co., Inc., J. J. Cody, Gowan & Sorey, Houston Oil Co. of Texas, Morgan Starrett Oil Co., Republic Natural Gas Co., Shield Oil Co., Union Producing Co.

TOMOCONNOR

9 mi ne Refugio, J. M. Swisher Sur, Blocks 3456, Chas. Hardwick, G. W. Main, Thos. Webb and J. Con Surs. **Means of Discovery:** Geophysics. **Discovery Data:** Quintana Petroleum Co.'s Tom O'Connor 1, June 26, 1934, 545 bbls 38.8-gr oil; total depth 5580 ft, 7-in casing 5570 ft, sand 5574-80 ft, tubing pressure 425 lbs, casing 800 lbs, ⅝-in choke. **Structure:** Domal type structure. **Elevation:** 50 to 60 ft. **Formation, Depth, Gravity:** Frio, 5180 ft, gas; several sands between 5550 and 5900 ft, same group, 38-39 gr. **Productive Area:** 10,600 acres, 8,600 oil, 500 gas, 2000 undeveloped. **Development to July 1, 1939:** 401 wells, 395 oil, 2 gas, 4 failures. **Expected Ultimate Recovery:** 301,000,000 bbls. **Produced to July 1, 1939:** 13,383,461 bbls. **Remaining Reserve:** 287,616,479 bbls. **Deepest Hole:** Quintana Petroleum Co.'s Tom O'Connor 15-A, 8174 ft, plugged back and set 7-in 5953 ft, perforated 5740-5825 and 5840-54 ft, Aug. 21, 1935, 155 bbls oil per day, ⅛-in choke; 350 lbs tubing pressure, 875 lbs casing pressure. **Development and Producing Methods:** 10-in, 1100 ft, producing string through sand and perforated. All wells flowing. Few making some water. **Outlets:** Humble Pipe Line Co., Texas Pipe Line Co., Atlantic Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Copana Oil Co., Josey-Bruton, Hewitt & Dougherty, Illinois Petroleum Co., Nordham & Morris, Quintana Petroleum Co., Union Producing Co., Windsor Oil Co.

WOODSBORO‡

4 mi se Woodsboro, 3½ mi ne La Rosa field, Sec. 26, Johnson and Pugh subd. Bonnie View Ranch, Esteban Lopez sur. **Means of Discovery:** Geophysics. **Discovery Data:** Rutherford Oil Co.'s Neimann 1, Dec. 27, 1938, 20,000,000 cu ft of gas per day with spray of 56-gr dist; 2125 lbs shut in pressure; producing horizon 5235-47 ft, total depth 6506 ft, plugged back perforated 5235-47 ft. **Structure:** Nosing off the general feature controlling production in Refugio-Greta group. **Elevation:** 25 ft. **Formation, Depth, Gravity:** Frio, 5230 ft, 56 gr dist; Catahoula at 4200, gas. **Productive Area:** 80 acres, 20 distillate; 60 gas. **Development to July 1, 1939:** 1 distillate, 1 gas. **Produced to July 1, 1939:** Gas only. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in, 1250 ft; 5½-in through sand and perforated. **Outlets:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Wellington Oil Co., Cities Service Oil Co., United Producing Corp., Heep Oil Corp., Barnsdall Oil Co., Holland Oil Co., Darby Petroleum Co.

SAN PATRICIO COUNTY

ANGELITA

5 mi sw Odem, Juan Hart Grant. **Means of Discovery:** Trend play, geological information, surface indications. **Discovery Data:** Atkins & O'Niel and Continental Oil Co.'s Welder 1, April 25, 1934, 180 bbls 31.5-gr oil, ¼-in choke; 1550 lbs tubing pressure, 1750 lbs casing; total depth 5382 ft, producing horizon 5376-82 ft. **Structure:** Small sand lens on nose. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Frio, 5375 ft, 31.5 gr; 6200 ft, 32 gr. **Productive Area:** 120 acres; 40 oil, 80 undeveloped. **Development to July 1, 1939:** 10 wells, 2 oil, 8 failures. **Expected Ultimate Recovery:** 100,000 bbls. **Produced to July 1, 1939:** 29,611 bbls. **Remaining Reserve:** 70,389 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Welder 1, abnd 7131 ft, April 22, 1935. **Development and Producing Methods:** 10-in, 600 ft, producing string through sand and perforated. **Outlet:** Trucks. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Wellington Oil Co., Continental, Humble.

EAST MATHIS

6 mi east Mathis, Sections 13 and 29, George H. Paul's subd. **Means of Discovery:** Trend drilling and geological information. **Discovery Data:** Seaboard Oil Corp's Persons 1, June 16, 1939, 54.03 bbls 35.5-gr oil per day; ⅛-in choke, 325 lbs tubing, 700 lbs casing pressures; producing horizon 5258-70 ft, total depth 6348 ft, plugged back 5300 ft, perforated 5260-68 ft with 48 shots. **Structure:** Nosing off regional anticline with some faulting indicated. **Elevation:** 134 ft. **Formation, Depth, Gravity:** Frio, 5255 ft, 35.5 gr; 4420 ft, 55 gr dist. **Productive Area:** 800 acres, 120 oil and distillate, 680 undeveloped. **Development to July 1, 1939:** 1 oil well. **Expected Ultimate Recovery:** 600,000 bbls. **Produced to July 1, 1939:** 463 bbls. **Remaining Reserve:** 599,537 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in, 1624 ft; 5½-in, through sand and perforated. Low pressure on oil sand; shallower well making distillate with high gas/oil ratio. **Outlets:** Trucks. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Seaboard Oil Corp., The Texas Co., H. F. Wilcox, Southwest Exploration Co., Sun Oil Co., Mid-Continent Petroleum Corp.

EAST PLYMOUTH

10 mi ne Sinton, Section 37, Fourth Addition to Taft Farm Lands subd. **Means of Discovery:** Seismograph. **Discovery Data:** Humble Oil & Refining Co.'s Smith & Talbert 1, May 8, 1938, 10,000,000 cu ft gas per day; recovered 24.5-gr oil on drill-stem test; 5/32-in choke; 1950 lbs tubing, 2100 lbs casing pressure; producing horizon 4808-36 ft, total depth 4836 ft, perforated 4808-10 ft with 10 shots. **Structure:** Faulted anticline. **Elevation:** 44 ft. **Formation, Depth, Gravity:** Heterostegina, 4805 ft, 24.5 gr on drill-stem test, but well made gas; Frio, 5100 ft, gas. **Productive Area:** 120 acres. **Development to July 1, 1939:** 3 wells, 1 gas, 2 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Humble's Smith & Talbert 1, abnd 6750 ft, June 6, 1938. **Development and Producing Methods:** 10¾-in, 1019 ft, 7-in through sand and perforated. Wells shut in. **Rigs Running, July 1, 1939:** 1. **Principal Leaseholders:** Humble, Sun Oil Co., Shell Oil Co., Plymouth Oil Co., The Texas Co., Gulf Oil Corp., Stanolind Oil & Gas Co., Tidewater Associated Oil Co., Standard Oil Co. of Texas, Republic Natural Gas Co., Byron Rife.

EAST WHITE POINT

8 mi sw of Taft, Section 62, George H. Paul's subd. **Means of Discovery:** Reflection seismograph. **Discovery Data:** Plymouth Oil Co.'s Brigham 1, Feb. 24, 1938, 216.60 bbls 38.3-gr oil per day; 9/16-in choke; 950 lbs tubing, 1100 lbs casing pressures; producing horizon in Frio, perforated 5661-64½ ft, total depth 5665 ft. **Structure:** Faulted anticline. **Elevation:** 62 ft. **Formation, Depth, Gravity:** Catahoula, 2500 ft, gas; 4000 ft, gas; Heterostegina, 4900 ft, 26-gr, although new wells are producing at this level; Frio 5650 ft, 38.3-gr. **Productive Area:** 3500 acres, 1160 oil, 3000 gas, 2340 undeveloped. **Development to July 1, 1939:** 97 wells, 92 oil, 1 gas, 4 failures. **Expected Ultimate Recovery:** 27,260,000 bbls. **Produced to Jan. 1, 1939:** 1,130,281 bbls. **Remaining Reserve:** 26,129,719 bbls. **Deepest Hole:** Plymouth Oil Co.'s E. Brooks 3, 8383 ft, apparently in top of Vicksburg, plugged back and completed as gas well through perforations, 4010-15 ft, May 13, 1939. **Development and Producing Methods:** 10¾-in, 980 ft, 5- and 7-in through sand and perforated. All wells flowing with a few making some water. Natural gasoline plant immediately proposed for field. **Outlet:** Republic Pipe Line Co. **Rigs Running, July 1, 1939:** 9. **Principal Leaseholders:** Plymouth Oil Co., Arkansas Fuel Oil Co., Shell Oil Co., Sinclair Prairie Oil Co., Humble Oil & Refining Co., Houston Oil Co., The Texas Co., Wellington Oil Co., Stanolind Oil & Gas Co., Sun Oil Co., O. W. Killam, Standard Oil Co. of Kansas.

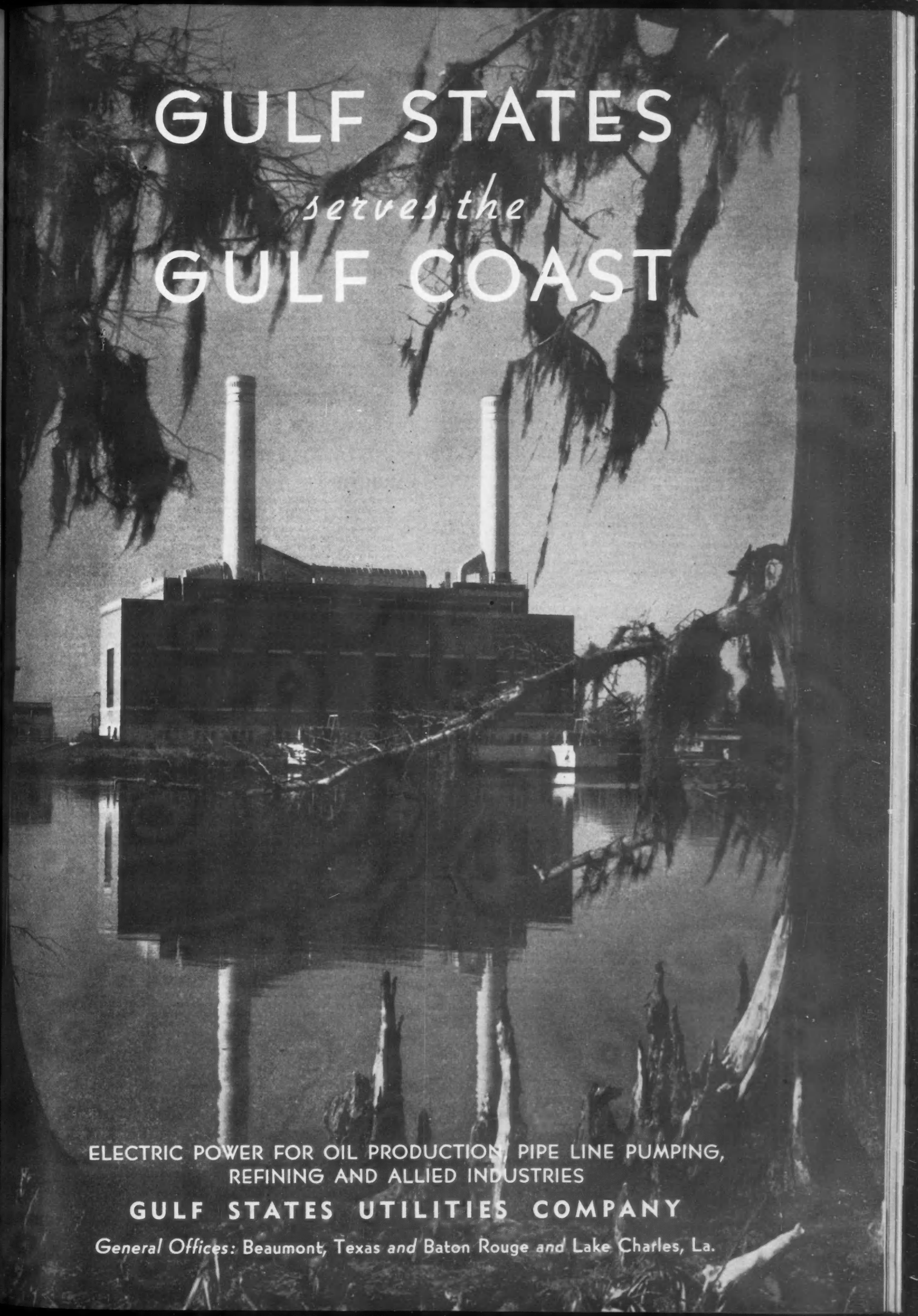
MATHIS‡

4 mi nw Gregory, centering around Section 81, Pauls Subdivision, Coleman-Fulton Pasture Company Lands. **Means of Discovery:** Geological data. **Discovery Data:** Plateau Oil Co.'s Collins 1, Dec. 5, 1924, 20,000,000 cu ft gas per day; 935 lbs rock pressure; total depth 2510 ft, 8¼-in casing 2375 ft, sand 2395-99 and 2403-14 ft. **Structure:** Sand lensing and faulting. **Elevation:** 90 ft. **Formation, Depth, Gravity:** Miocene 2500 ft, gas. **Productive Area:** 120 acres. **Development to July 1, 1939:** 11 wells, 5 gas, 6 failures. **Deepest Hole:** Magnolia Petroleum Co.'s Freeman 1, abnd 5526 ft. **Outlet:** Shut in. **Rigs Running, July 1, 1939:** None. **Principal Leaseholders:** Open.

MIDWAY

4 mi nw Gregory, centering around Section 81, Pauls Subdivision, Coleman-Fulton Pasture Company Lands. **Means of Discovery:** Torsion Balance. **Discovery Data:** Phillips Petroleum Co.'s Schmidt 1, April 20, 1937, 3 bbls 34-gr oil, considerable gas, 5/32-in choke; tubing pressure 1680 lbs, casing pressure 1985 lbs; perforations 5337-40 ft with 9 shots, sand 5323-41 ft, total depth 7003 ft plugged back to 5370 ft. **Structure:** Elongated domal type structure, extending ne-sw. **Formation, Depth, Gravity:** Frio, 5340 ft, 34 gr. **Productive Area:** 260 acres. **Development to July 1, 1939:** 15 wells, 14 oil, 1 failure. **Expected Ultimate Recovery:** 1,430,000 bbls. **Produced to January 1, 1939:** 440,100 bbls. **Remaining Reserve:** 989,900 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10-in 800 ft, 5-in through sand. Wells still flowing, but making some water. **Outlets:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Phillips, Sun Oil Co., Texas Conservative Oil Co., Gibson Oil Co.

* Prospect. ‡ Gas field.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PLYMOUTH

8 mi ne Sinton, Sections 44, 45, 46, 47, 48, 49, 50, 54, 55, 70, 71, Wilder subdivision; Sections 24, 34, 35, Taft subdivision. **Means of Discovery:** Geological and geophysical work. **Discovery Data:** Plymouth Oil Co.'s Welder 1-C, April 21, 1935, 265 bbls 32-gr oil, ⅜-in choke; 225 lbs tubing, 525 lbs casing pressure; total depth 5508 ft, producing horizon 5501-08 ft. **Structure:** Anticlinal structure with several local highs, some faulting, graben cuts lower portion of main field. **Elevation:** 55 ft. **Formation, Depth, Gravity:** All sands in Frio, 5500 ft, 32 gr; 5650 ft, 34.2 gr; 5900 ft, 38 gr; 6150 ft, 38.5 gr. **Productive Area:** 3200 acres, 2880 oil, 320 undeveloped. **Development to July 1, 1939:** 190 wells, 173 oil, 17 failures. **Expected Ultimate Recovery:** 60,480,000 bbls. **Produced to July 1, 1939:** 15,902,483 bbls. **Remaining Reserve:** 44,577,517 bbls. **Deepest Hole:** Sun Oil Co.'s Edgar 2, abnd 7030 ft, Feb. 20, 1936. **Development and Producing Methods:** 13-in, 350 ft; 10-in, 1400 ft; 5- to 7⅝-in, producing string through sand and perforated. Larger pipe used with intention of deepening wells to lower pays. All wells flowing with only a few making water. Natural gasoline plant in field. **Outlets:** Republic Pipe Line Co., Sinton Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Conroe Drilling Co., Heep Oil Corp., Humble Oil & Refining Co., Magnolia Petroleum Co., Pantex Oil Corp., Plymouth Oil Co., Stanolind Oil & Gas Co., Sun Oil Co., Texon Royalty Co., Commercial Drilling Co.

SINTON

⅛ mi n Sinton, Sections 1, 2, 73, 74, 75 and 80, Welder subdivision. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** Plymouth Oil Co.'s E. H. Welder 1-A, May 13, 1934, 100 bbls 48-gr oil and 25,000,000 cu ft gas, ¼-in choke; total depth 6602 ft, producing horizon 5415-37 ft, shale 5327-30 ft, sand 5430-34 ft, plugged back 5100 ft, sidetracked redrilled to 5434 ft. **Structure:** Sand lensing on anticlinal type structure. **Elevation:** 70 ft. **Formation, Depth, Gravity:** Frio, 5450 ft, 44 gr; 5900 ft, 33 gr. **Productive Area:** 3200 acres, 180 oil, 3020 gas, 400 undeveloped. **Development to July 1, 1939:** 11 wells, 6 oil, 2 gas, 3 failures. **Expected Ultimate Recovery:** 900,000 bbls. **Produced to January 1, 1939:** 60,647 bbls. **Remaining Reserve:** 839,353 bbls. **Deepest Hole:** Heep Oil Corp.'s Welder 1-A (4), Dec. 16, 1934, 60 bbls 33-gr oil and 150 bbls salt water per day, ¼-in choke, 1160 lbs tubing pressure, 1900 lbs casing pressure; total depth 7247 ft, plugged back 5900 ft, perforated 5880-90 ft. **Development and Producing Methods:** Wells produce with high gas/oil ratio. **Outlet:** Loading rack. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Plymouth, Heep Oil Corp., Petrol Drilling Co., Sun Oil Co. **Remarks:** Well showed high gas/oil ratio, accounting for low ultimate recovery figure—future wells may reduce gas/oil ratio and recover much greater amount of oil.

TAFT

Sections 23, 6, 1, Third Taft Farm Subdivision. William Burns J. N. W. Ottman and Joseph Fesseben Surveys, 3 mi n Taft. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Geo. E. Smith et al's Britton 1, Dec. 17, 1935, 425 bbls oil, ⅛-in and ¼-in choke; 450 lbs tubing, 650 lbs casing pressure; total depth 4901 ft, producing horizon 4872-01 ft. **Structure:** Sand lens against faulting. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Catahoula, 3900 ft, 24 gr; 4300 ft, 23.5 gr; Heterostegina 4900 ft, 24.5 gr. **Productive Area:** 800 acres, 520 oil, 600 gas. **Development to July 1, 1939:** 80 wells, 74 oil, 1 gas, 5 failures. **Expected Ultimate Recovery:** 9,360,000 bbls. **Produced to January 1, 1939:** 2,792,396 bbls. **Remaining Reserve:** 6,567,604 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Godwin 1, 6352 ft, plugged back, sidetracked and drilled to 4005 ft to complete as oil well May 3, 1936. **Development and Producing Methods:** 10-in, 1000 ft; part of wells casing atop sand and others through perforations. Many wells on pump making water. **Outlets:** Republic Pipe Line Co., Sinton Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Atlantic Refining Co. Conroe Drilling Co., L. A. Cage Co., Eaves Oil Co., Humble, Shell Oil Co., Western Gulf Petroleum Corp.

WHITE POINT

9 mi n Corpus Christi, John Gravis, S. S. Gillette, John M. Segin, William Bell, M. M. Flores Surveys, Roos Subdivision. **Means of Discovery:** Surface indications and geological information. **Discovery Data:** Prior to 1920 a number of tests were drilled, blowing out and making tremendous flows of gas, finally cratering and in several instances burning. Several tests flowed at rates estimated up to 150,000,000 cu ft per day. Sands between 1900 and 2800 ft finally developed after pressure overcome. **Structure:** Elongated anticline with axis running ne to sw and has a closure of approximately 60 ft on w and nw sides. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Upper gas in several sands from Miocene series, 1900-2800 ft; Heterostegina, 4900 ft, 23.4 gr; Frio 5650 ft, 39.5 gr. **Productive Area:** 3250 acres, 160 oil, 3250 gas, 400 undeveloped. **Development to July 1, 1939:** 80 wells, 8 oil, 49 gas, 23 failures. **Expected Ultimate Recovery:** 640,000 bbls. **Produced to July 1, 1939:** 127,176 bbls. **Remaining Reserve:** 512,824 bbls. **Deepest Hole:** Saxet Oil Co.'s Rachel 19, 7205 ft, plugged back and completed as gas well in shallow sand, May 23, 1933. **Development and Producing Methods:** 13⅜-in, 200 ft; 10¾-inch, 1300 ft; 5½-in through sand and perforated. High gas/oil ratio and water intrusion have hampered production in this field. **Outlets:** United Gas System, Republic Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Crown Central Petroleum Co., Rachal Ranch Oil Co., Houston Oil Co., Republic Natural Gas Co., United Gas System, Plymouth Oil Co.

STARR COUNTY

ARROYO GRANDE*

Centering around the north end of Porcions 69, 70, 71 and 72 and several sections immediately n, 12 mi n Roma. **Means of Discovery:** Surface indications. Oyster escarpment is exposed. **Development:** Empire Gas & Fuel Co.'s Paza 1, drilled in 1924, encountered sand at 3208-14 ft and set casing atop the sand, the result being a 500,000 cu ft gasser spraying a little oil. Sand at 435-43½ ft in this well was estimated at 200,000 cu ft of gas. Another sand at 776-808 ft showed gas, at 2120 ft showed heavy oil. Six shallow gassers in the 400-foot sand have been completed. Great Plains Oil Co.'s Sanchez 1, in process of drilling for several years by several owners, abnd in January, 1935, failing to complete in oil sand at 3659-86 ft. Ash & Tackett's R. E. Margo 1, Block 4, Share 3-V, Portion 70, showed for about 1935. Several other shallow wells were drilled in the vicinity of the Margo test without successful completing as producers. Two new tests to the deeper horizons were drilled during 1935, both by Sunray Oil Co., Munoz was abnd at 4008 ft and S. Sanchez & Brothers 1, was abnd at 4015 ft. Possibly should be referred to as a field rather than a prospect, although subsequent development has developed nothing of material importance.

BARBACOAS

Porcions 86, 87, 88 and 89, 8 mi ne Rio Grande City. **Means of Discovery:** Geophysical survey. **Discovery Data:** Jeffries Lambreth Drilling Co.'s Starr Cattle Co. 1, May 4, 1933, 20,000,000 cu ft gas 2455 ft, producing horizon 2450-55 ft. **Structure:** Domal type structure with sand lenses, indications of some faulting. **Formation, Depth, Gravity:** Catahoula, 200 ft, 700 ft, gas; Frio, 2450 ft, gas; 2500 ft, 24 gr, 2700 ft, gas; 2650 ft, 27 gr; 2950 ft, gas; Cockfield, 5400 ft, 58 gr. **Productive Area:** 480 acres, 120 oil, 360 gas. **Development to July 1, 1939:** 42 wells, 5 oil, 11 gas, 26 failures. **Expected Ultimate Recovery:** 540,000 bbls. **Produced to July 1, 1939:** 35,899 bbls. **Remaining Reserve:** 504,101 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Garcia, 6567 ft in Yegua, abnd June 10, 1939. **Development and Producing Methods:** 10-in at 500 ft, producing string through sand, perforated. Deep wells to Cockfield have experienced trouble due to high gas pressure. **Outlets:** Oil by trucks to local market, small gas line. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Merren, Jeffries & Johnson, Merren, Johnson & Bond, Magnolia, Henshaw Brothers, Weekley Oil Co., Lee Davis.

CARRUTH*

2 mi e Barbacoas field, Share 1-B, Porcions 91 and 92. **Means of Discovery:** Geological information. **Development:** Lester & Duffield et al drilled E. B. Carruth 1, March 20, 1935; 3,000,000 cu ft gas and 2 bbls oil per day. It was carried to 4016 ft, plugged back, sidetracked and drilled to 2908 ft, cementing 7-in casing at 2895 ft. It had gas sand at 2882-95 ft and oil sand 2895-2908 ft. Several subsequent wells have failed to find production at this level. Whitfield & Southers' Bennett & Carruth, abnd May 27, 1939, at 3012 ft, found sand section 2310-25 ft, 2508-13 ft, 2662-76 ft and 2750-80 ft, all showing gas. **Principal Leaseholders:** R. P. Whitfield, Gus Draper, Sun Oil Co., Magnolia Petroleum Co.

CHARCO BLANCO‡

14 mi n Rio Grande City, Porcion 79, Juan Cisneros Gr., ab-66. **Means of Discovery:** Geological subsurface. **Discovery Data:** Sun Oil Co.'s Young 1, June 14, 1938, 3,000,000 cu ft dry gas per day; 3/16-in choke, 960 lbs tubing, 1000 lbs casing pressures; producing horizon 2708-30 ft, total depth 3008 ft, perforated 2710-20 ft with 12 shots. **Structure:** Sand lensing, plus some faulting in general territory. **Elevation:** 374 ft. **Formation, Depth, Gravity:** Jackson, 2705 ft, gas. **Productive Area:** 40 acres. **Development to July 1, 1939:** 1 gas, 1 failure. **Expected Ultimate Recovery:** Gas field. **Development and producing Methods:** 10¾-in, 103 ft; 7-in, 2745 ft. **Outlets:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Sun Oil Co.

CUEVITAS

Porcions 110 and 11, Sacatosa and Cuevitas grants, a portion of county. **Means of Discovery:** Geological information, correlation of several wells, and surface indications. **Discovery Data:** Sun Oil Co.'s Guerra 1-A, June 13, 1933, 17,000,000 cu ft, deepened to 2232 ft in sand and recompleted 385 bbls oil and 3,500,000 cu ft gas, 6⅝-in casing set 2208 ft. **Structure:** Sand lensing structure with sand body ranging to 35 and 40 ft. **Elevation:** 320 ft. **Formation, Depth, Gravity:** From Mirando series of McElroy or Rockleyensis member of Middle Jackson about same position as Government Wells sand, 2050 ft, 32 gr; 2230 ft, 34.8 gr. **Productive Area:** 640 acres. **Development to July 1, 1939:** 38 wells, 14 oil, 6 gas, 18 failures. **Expected Ultimate Recovery:** 3,552,000 bbls. **Produced to January 1, 1939:** 926,929 bbls. **Remaining Reserve:** 2,625,071 bbls. **Deepest Hole:** Sun Oil Co.'s Guerra, abnd 3600 ft in Cockfield. **Development and Producing Methods:** 10-in 300 ft, 7-in atop sand. Number of wells on pump. **Outlet:** Rail. **Rigs Running July 1, 1939:** 1. **Principal Leaseholder:** Sun Oil Co.

HAYDEN‡

5½ mi n Rio Grande City, Block 4, Share 47, Porcion 80. **Means of Discovery:** Geological information, trend development. **Discovery Data:** Howard Bass' Hayden 1, Jan. 11, 1937, 1444 ft, 7-in casing 1336 ft, perf 1305-18 ft, 5 mcf gas per day, 550 lbs shut-in pressure on casing. **Structure:** Sand lensing—general high geological feature. **Elevation:** 300 ft. **Formation, Depth, Gravity:** Frio, 1300 ft, gas. **Productive Area:** 40 acres. **Development to July 1, 1939:** 1 gas, 2 failures. **Deepest Hole:** Discovery. **Outlet:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Howard Bass.

LA REFORMA

1 mi sw La Reforma townsite, Share 20, Santa Cruz Grant. **Means of Discovery:** Geological and geophysical survey plus trend drilling. **Discovery Data:** Wheelock & Collins et al's Francisco B. Guerra 1-A, July 23, 1938, 2,500,000 cu ft gas and 60 bbls 51.6-gr dist per day; 3/16-in choke, 2125 lbs tubing, 2300 lbs casing pressures; producing horizon 5917-69 ft, total depth 7010 ft, perforated 5927-29 ft with 12 shots. **Structure:** Anticlinal fold. **Elevation:** 271 ft. **Formation, Depth, Gravity:** Frio, 5915 ft, 51.6 gr. **Productive Area:** 320 acres, 80 distillate, 240 undeveloped. **Development to July 1, 1939:** 5 wells, 2 oil, 3 failures. **Expected Ultimate Recovery:** 280,000 bbls. **Produced to January 1, 1939:**

* Prospect. ‡ Gas field.

5634 bbls. **Remaining Reserve:** 274,366 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10¾-in, 1136 ft, 7-in, 6582 ft, bottom-hole pressure 2800 lbs. **Outlet:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Wheelock & Collins, Humble Oil & Refining Co., Magnolia Petroleum Co., Sun Oil Co., The Texas Co., Rowan & Hope.

LOS OLMOS

Sections 5, 6, 7 and 8 of Porcions 75, 76 and 77. **Means of Discovery:** Geological information, surface indications. **Discovery Data:** Mercedes Oil & Gas Co.'s Bass 3, July 10, 1925, 2,000,000 cu ft gas, 540 ft, top sand 528 ft. **Structure:** Series of sand lenses rather than blanket sand, some faulting indicated. **Elevation:** 225 ft. **Formation, Depth, Gravity:** Frio, 400 ft, 18.5 gr; 550 and 700 ft, gas. **Productive Area:** 550 acres, 240 oil, 310 gas. **Development to July 1, 1939:** 176 wells, 95 oil, 12 gas, 69 failures. **Expected Ultimate Recovery:** 960,000 bbls. **Produced to January 1, 1939:** 587,197 bbls. **Remaining Reserve:** 382,803 bbls. **Deepest Hole:** Producers Oil Co.'s Kelsey Bass 1, abnd 2612 ft, Oct. 1, 1911, sand 2040-2129 ft. **Development and Producing Methods:** Shallow wells pumping from central power and making water. **Outlet:** Pipe line to Rio Grande City. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Ed Lindberg, St. Mary's Oil & Gas Co.

RICABY

6 mi ne Rio Grande City, centers around the central portion of Porcion 83, Juris of Carmargo. **Means of Discovery:** Geological information. **Discovery Data:** Moss & Heard's Ricaby 1, Feb. 1, 1937, 100 bbls of fluid, most of which 24-gr oil per day ⅛-in choke, total depth 1400 ft, plugged back to 1316½ ft, sand 1312-16½ ft, 7-in casing 1307 ft. **Structure:** Sand lensing, some nosing along strike line. **Elevation:** 275 ft. **Formation, Depth, Gravity:** Frio, 1300 ft, 24 gr; 1450 ft, 21.5; 1600 ft, 30 gr. **Productive Area:** 120 acres, 30 oil, 90 undeveloped. **Development to July 1, 1939:** 9 wells, 3 oil, 6 failures. **Expected Ultimate Recovery:** 105,000 bbls. **Produced to July 1, 1939:** 4495 bbls. **Remaining Reserve:** 100,505 bbls. **Deepest Hole:** Sun Oil Co.'s Ramon Lopez 1, abnd 2844 ft. **Development and Producing Methods:** 10-in, 40 ft, producing string atop sand and wells completed on pump. **Outlet:** Trucks. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Bishop-Moss & Owen, Sun Oil Co., J. H. Clopton, H. L. Stagg, W. W. Zimmerman. **Remarks:** Includes area commonly referred to as North Ricaby.

RINCON

16 mi north Samfordyce townsite, Survey 266. **Means of Discovery:** Geophysics. **Discovery Data:** Transwestern Oil Corp.'s T. B. Slick School 1, Feb. 21, 1938, 2½ million cu ft gas and 35 bbls 59-gr oil per day, ¼-in choke; 1700 lbs equalized pressure; producing horizon 4172-4259 ft, total depth 6862 ft, perforated 4212-30 with 18 shots. **Structure:** Domal anticline. **Elevation:** 472 ft. **Formation, Depth, Gravity:** Basal Frio, 4170 ft, 59-gr distillate; lens at same level on northeast flank of field producing 41.4-gr crude. This zone is likely near or at top of Vicksburg formation. **Productive Area:** 3000 acres, 80 in distillate and oil, 2920 undeveloped. **Development to July 1, 1939:** 8 wells, 2 oil, 6 failures. **Expected Ultimate Recovery:** 336,000 bbls. **Produced to Jan. 1, 1939:** 15,578 bbls. **Remaining Reserve:** 320,422 bbls. **Deepest Hole:** Discovery well. **Development and Producing Methods:** 13⅜-in 1497 ft, producing string through sand and perforated. Recycling plant to be constructed immediately. **Outlets:** Trucks. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Transwestern Oil Corp., D. D. Davenport, Sun Oil Co., Rowan & Hope, Earl Baldridge, Arkansas Fuel Oil Co., The Texas Co., Atlantic Refining Co., Stanolind Oil & Gas Co., W. R. Davis Co. **Remarks:** W. R. Davis Co., recently acquired holdings of Transwestern & D. D. Davenport on development basis. This block, consisting of 12,000 acres, is to be developed with at least 20 wells and recycling plant constructed. Report includes area to northeast known as North Rincon where crude production is found.

RIO GRANDE CITY

Porcions 80 and 81, ne Rio Grande City. **Means of Discovery:** Geological information, surface indications. **Discovery Data:** Sioux Oil Corp.'s Wood 1, May 31, 1932, 75 bbls 27.3-gr oil, 1380 ft, producing horizon 1375-80 ft, elev 178 ft. **Structure:** Faulting and sand lensing narrow, spotted producing section. **Elevation:** 175 to 200 ft. **Formation, Depth, Gravity:** Frio, 1350 ft, 27.3-gr. **Productive Area:** 160 acres, 120 oil, 40 gas. **Development to July 1, 1939:** 75 wells, 30 oil, 45 failures. **Expected Ultimate Recovery:** 480,000 bbls. **Produced to July 1, 1939:** 334,266 bbls. **Remaining Reserve:** 145,734 bbls. **Deepest Hole:** Hiram Reed's Chatfield 1-A, abnd 3258 ft, Sept. 5, 1935. **Development and Producing Methods:** 10-in 40 ft; producing string atop sand. All wells on pump. **Outlets:** Trucks, railroad, Valley Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Fech Oil Co., Sioux Oil Corp., Moss & Bass.

ROMA

Porcions 67, 68, 69, 70, 71 and 72, extends n from Roma and s from same point into Mexico. **Means of Discovery:** Surface geology by The Texas Co., Shell Oil Co., and Huasteca Petroleum Corp., also information based on shallow wells. **Discovery Data:** M. Guerra's Fee 1, Oct. 28, 1927, 1,500,000 cu ft gas, 200 ft, producing horizon 192-200 ft. **Structure:** Anticlinal structure, extending nw-se with axis of structure running nw from a point ½ mi w of Roma. Top of structure 3 mi nw Roma. **Elevation:** 286 ft. **Formation, Depth, Gravity:** Shallow gas from near contact of Frio and Jackson, 200 ft; Queen City section of Mt. Selman, 3560 ft, 35-gr. **Productive Area:** 720 acres, 20 oil, 700 gas. **Development to July 1, 1939:** 15 wells, 2 oil, 4 gas, 9 failures. **Expected Ultimate Recovery:** 20,000 bbls. **Produced to July 1, 1939:** 11,630 bbls. **Remaining Reserve:** 8370 bbls. **Deepest Hole:** The Texas Co.'s M. Guerra & Son 1, abnd 4827 ft, sands 256-60, 3374-3519, 3589-3610 and 4742-93 ft, elev 284 ft. **Outlets:** Trucks. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** The Texas Co.

* Prospect. ‡ Gas field.

SACATOSA‡

4½ mi w Viboras, 5½ mi sw Cuevitas field, Antonio Canales Salinas "Sacatosa" gr. **Means of Discovery:** Subsurface correlations by A. M. Hagan. **Discovery Data:** Harvey & Henderson's Salinas 2, Oct. 5, 1938, 5,000,000 cu ft per day, ¼-in, 650 lbs tubing, 400 lbs casing pressures; producing horizon 1650-61 ft, total depth 1705½ ft, perforated 1657-61 ft with 10 shots. **Structure:** Sand lensing. **Elevation:** 349 ft. **Formation, Depth, Gravity:** Government Wells, 1650 ft, gas. **Productive Area:** 40 acres. **Development to July 1, 1939:** 4 failures, 1 gas. **Deepest Hole:** Senisa Oil Co.'s Salinas 3, abnd Dec. 17, 1938, 1794 ft in Government Wells sand topped 1697 ft. **Development and Producing Methods:** 10¾-in csg 20 ft; 5½-in csg 1700 ft. **Outlets:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Merle E. Morton, Bishop Oil Co., Sun Oil Co., Magnolia Petroleum Co., Harvey & Henderson.

SANTO DOMINGO‡

6 mi w Samfordyce field, 1 mi n Rio Grande, Porcion 92. **Means of Discovery:** Geological information. **Discovery Data:** John Clopton et al's Roos & Bennett 3, Jan. 26, 1936, 15,000,000 cu ft gas, 1050 lbs tubing, 1100 lbs casing pressure; total depth 4003 ft, producing horizon 2461-2616 ft; plugged back and set 5-in casing 2630 ft, perforated 2415-17 ft. **Structure:** Anticlinal type structure. **Elevation:** 152 ft. **Formation, Depth, Gravity:** Frio, 2450 ft, gas. **Productive Area:** 120 acres. **Development to July 1, 1939:** 1 gas, 4 failures. **Deepest Hole:** Argo Oil Corp.'s Roos & Bennett 1, abnd July 28, 1939, 6005 ft. **Development and Producing Methods:** 10-in 900 ft, casing through sand and perforated. **Outlets:** Shut in. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Argo Oil Corp., John Clopton, H. J. Porter et al, D. D. Oil Co.

SOUTH LA REFORMA

sw La Reforma, F. Farrias "Santa Cruz" grant. **Means of Discovery:** Trend drilling, geophysical and geological surveys. **Discovery Data:** Magnolia Petroleum Co.'s Guerra 2, August 21, 1939; initial production 80 bbls of 51.6-gr, 4,380,000 cu ft gas per day; producing horizon, Lower Frio sand showing distillate 5798-5832 ft; total depth 6556 ft, plugged back to 5485 ft. **Structure:** Local closure on general anticlinal. **Elevation:** 308 ft. **Formation, Depth, Gravity:** Frio, distillate, 5795 ft, 51.6-gr. **Productive Area:** 40 acres. **Development:** None. **Expected Ultimate Recovery:** No estimate as yet. **Development and Producing Methods:** 13⅜-in 1755 ft, 7-in 5911 ft., completed through perforations. High gas/oil ratio, typical of other distillate fields of this area. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Wheelock & Collins, Humble Oil & Refining Co., Magnolia Petroleum Co., Rowan & Hope, Sun Oil Co., The Texas Co.

SOUTH RICABY (El Tanque)

4⅛ mi ne Rio Grande, Porcion 84, Jurisdiction of Camargo. **Means of Discovery:** Geological information. **Discovery Data:** G. E. Dodd, Tr.'s Wood 1, May 25, 1937, 40 bbls 31-gr oil per hour, 5/16-in choke; tubing pressure 200 lbs, casing pressure 150 lbs; sand 1735-49 ft, shale 1749-54 ft. **Structure:** Sand lensing. Possible flank production on large structural feature. **Elevation:** 290 ft. **Formation, Depth, Gravity:** Frio, 1750 ft, 31-gr. **Productive Area:** 220 acres, 130 oil, 90 undeveloped. **Development to July 1, 1939:** 26 wells, 14 oil, 1 gas, 11 failures. **Expected Ultimate Recovery:** 715,000 bbls. **Produced to July 1, 1939:** 194,431 bbls. **Remaining Reserve:** 510,569 bbls. **Deepest Hole:** G. E. Dodd's Ben D. Wood 9, abnd May 5, 1939, 2700 ft. **Development and Producing Methods:** 8- and 10-in 40 ft; 5- and 7-in atop sand in some wells, through it and perforating in others. Although some wells flow at beginning, they shortly are placed on pump. Wells making some water. **Outlet:** Valley Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Barnett Petroleum Co., G. E. Dodd, Sun Oil Co., W. W. Zimmerman, Clopton & Mitchell, Connan T. Wood.

SUN

18 mi sw Kelsey field, 38 miles nw Rio Grande City, A. J. Smith Survey 242. **Means of Discovery:** Core drilling, geophysical and geological sur. **Discovery Data:** Sun Oil Co.'s McKinney 1, Sept. 15, 1938, 179.64 bbls 43.7-gr oil per day; 5/32-in choke, 730 lbs tubing, 990 lbs casing pressures; producing horizon, Frio 4850-58 ft, total depth 4858 ft, perforated 4853⅛-56⅛ ft with 12 shots. **Structure:** Anticline trending north and south. **Elevation:** 366 ft. **Formation, Depth, Gravity:** Frio 4140 ft, 52-gr; 4600 ft gas, 4675 ft, 46-gr; 4850 ft, 43.7-gr; 4900 ft, 45.1-gr; Vicksburg 5125 ft, 47.9-gr. **Productive Area:** 3600 acres, 1750 oil, 800 gas, 1850 undeveloped. **Development to July 1, 1939:** 16 wells, 10 oil, 2 gas, 4 failures. **Expected Ultimate Recovery:** 15,750,000 bbls. **Produced to July 1, 1939:** 86,344 bbls. **Remaining Reserve:** 15,663,756 bbls. **Deepest Hole:** Sun's Speer 1, abnd 6113 ft Nov 9, 1939. **Development and Producing Methods:** 10¾-in 1014 ft, 7-in through sand and perforated in majority of wells. Several making some water, but all tests are flowing. **Outlets:** Trucks, pipe line extension. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Circle Oil Co., Sun, Arkansas Fuel Oil Co., Magnolia Petroleum Co., Humble Oil & Refining Co.

WOODS‡

3 mi se Rio Grande City, south ends of Porcions 83, and 84. **Means of Discovery:** Geological data. **Discovery Data:** A. J. Weyel Jr.'s Wardner 1, blew out Jan. 15, 1936, 2051 ft, ran wild for several weeks, blowing gas and salt water, later abnd. Ed Leach et al's Dana 1, July 23, 1926, 1028 ft, sand 963-75 ft, flowed 10,000,000 cu ft gas, 460 lbs pressure. Several wells blew out prior to this completion but this should be classified as discovery well. **Structure:** Anticlinal structure, possibly nw-se strike. **Elevation:** 190 ft. **Formation, Depth, Gravity:** Frio 975 ft, gas. **Productive Area:** 80 acres. **Development to July 1, 1939:** 4 gas, 5 failures. **Deepest Hole:** Hughston Oil Co.'s Wood-Greeg 1, abnd 3360 ft, June 17, 1935. **Development and Producing Methods:** 10-in 100 ft, 5-in through sand and perforated. **Outlets:** Local market. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Ed Leach, A. J. Weyel, Tr., Hughston Oil Co., Killam and Stagg.

TRAVIS COUNTY

KIMBRO

Kimbro and T. Smith surveys, extreme e portion of county. **Means of Discovery:** Geology. **Discovery Data:** Billingslea et al's Lundgren 1, Sept. 7, 1935, 40 bbls oil, 660-70 ft. **Structure:** Igneous plug. **Elevation:** 530 ft. **Formation, Depth, Gravity:** Serpentine, 670 ft, 36.5-gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 25 wells, 7 oil, 18 failures. **Expected Ultimate Recovery:** 40,000 bbls. **Produced to July 1, 1939:** 2780 bbls. **Remaining Reserve:** 37,220 bbls. **Deepest Hole:** Albrecht et al's Swenson 1, abnd 1280 ft in Edwards lime, April 20, 1936. **Development and Producing Methods:** 9⅝-in 20 ft, 5½-in atop serpentine section, wells completed on pump from central unit. **Outlet:** Truck. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Billingslea & Boldings, M. J. Grimes, Chester Barnes.

MANDA

J. B. Kemper Survey, e part of county. **Means of Discovery:** Geophysical prospect checked by magnetometer. **Discovery Data:** Humble Oil & Refining Co.'s Peterson 1, Oct. 4, 1934, 10 bbls oil, 740 ft, top serpentine 631 ft, oil show 666-78 ft, 6⅝-in casing 664 ft. **Structure:** Igneous plug. **Elevation:** 525 ft. **Formation, Depth, Gravity:** Serpentine 740 ft, 36.5-gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 16 wells, 5 oil, 11 failures. **Expected Ultimate Recovery:** 40,000 bbls. **Produced to Jan. 1, 1939:** 22,178 bbls. **Remaining Reserve:** 17,822 bbls. **Deepest Hole:** Humble's Wells, abnd 1501 ft in Austin chalk July 25, 1934. **Development and Producing Methods:** 10-in 20 ft, 5½-in atop serpentine; wells on pump. **Outlet:** Rail. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** J. E. Robertson.

SERPENTINE*

Wells scattered through western portion of Bastrop, eastern Travis and Williamson counties. **Means of Discovery:** Mainly on magnetometer surveys. **Development:** Numerous wildcats have been drilled on magnetometer and geological prospects during the past eight years, the majority finding serpentine, but in many cases, hard and dry. These prospects are not being treated individually due to their similarity. The usual method of hunting these plugs is to work the area with magnetometer and drill on the flank of the structure. Several wells may be required to find the soft, porous, saturated section of the plug.

VAL VERDE COUNTY

VINEGARONE

50 mi n Del Rio GC&SF Survey, Block D. **Means of Discovery:** Surface geology. **Discovery Data:** Campbell & Ross' Whitehead & Wardlow 1, Jan. 18, 1938, 10 bbls, 18-gr oil per day, pumping; producing horizon 296-201 ft, total depth 310 ft. **Structure:** Anticline. **Elevation:** 1772 ft. **Formation, Depth, Gravity:** Trinity, 295 ft; 18-gr. **Productive Area:** 40 acres. **Development to July 1, 1939:** 7 wells, 4 oil, 3 failures. **Expected Ultimate Recovery:** 8000 bbls. **Produced to July 1, 1939:** 50 bbls. **Remaining Reserve:** 7950 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Whitehead 1, 6725 ft in black shale, topped Pennsylvanian 964 ft. **Development and Producing Methods:** No casing, tubing to near bottom and wells on pump. **Outlet:** None. **Rigs Running:** None. **Principal Leaseholders:** E. P. Campbell, R. P. Ross.

VICTORIA COUNTY

COLETTO CREEK

6 mi sw Victoria, R. Manchola grant. **Means of Discovery:** Surface geology. **Discovery Data:** Stoneleigh Oil & Gas Co.'s Terrell 1, June 10, 1933, 168 bbls 37.8-gr oil, 7/32-in choke; 1735 lbs casing pressure, total depth 4437 ft, producing horizon 4423-37 ft, elev 65 ft. **Structure:** Anticlinal structure. **Elevation:** 65 ft to 120 ft. **Formation, Depth, Gravity:** Catahoula 2175 ft gas; 2210 ft, 19.5-gr; 2850 ft, 24-gr; Frio 4450 ft, 37.8-gr. **Productive Area:** 520 acres, 260 oil, 400 gas, 250 undeveloped. **Development to July 1, 1939:** 41 wells, 23 oil, 4 gas, 14 failures. **Expected Ultimate Recovery:** 2,210,000 bbls. **Produced to July 1, 1939:** 967,811 bbls. **Remaining Reserve:** 1,242,189 bbls. **Deepest Hole:** Albert Plummer's Zimmer 1, abnd 5371 ft, Oct., 1934. **Development and Producing Methods:** 10-in 420 ft, 5½- and 7-in atop sand. Majority of wells flowing or jetting, some making water. **Outlet:** Leo Glover Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** American Liberty Oil Co., Nutex Oil Co., Plummer Oil Corp., George E. Smith.

EAST TELFERNER

5 miles se Telferner townsite, T. C. Burnham Survey 132. **Means of Discovery:** Geophysics. **Discovery Data:** W. V. Bowles & Co.'s Robertson 1, Jan. 1, 1938, 65 bbls 28.7-gr oil per day, 11/64-in choke; 1100 lbs tubing, 1350 lbs casing; producing horizon 5100-14 ft; total depth 6138 ft, plugged back and sidetracked 5114 ft. **Structure:** Elongated dome. **Elevation:** 64 ft. **Formation, Depth, Gravity:** Frio, 5100 ft, 28.7-gr. **Productive Area:** 30 acres. **Development to July 1, 1939:** 3 oil, 3 failures. **Expected Ultimate Recovery:** 120,000 bbls. **Produced to July 1, 1939:** 35,398 bbls. **Remaining Reserve:** 86,602 bbls. **Deepest Hole:** Discovery well. **Development and Producing Methods:** 10¾-in 786 ft, 5½-in through sand and perforated. Wells flowing with high gas/oil ratio, some water reported. **Outlet:** Rail. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** W. V. Bowles & Co., Humble Oil & Refining Co., Houston Oil Co., Shasta Oil Co., Barnsdall Oil Co., The Texas Co., Magnolia Petroleum Co., Shell Pet. Corp.

GARCETAS CREEK*

5 mi s Inez, centering around the A. de Leon and Valentin Garcia gr. **Means of Discovery:** Seismograph. **Development:** Undrilled. **Principal Leaseholders:** Humble Oil & Ref. Co., Houston Oil Co.

FORDTRAN‡

T&NO Section 14, corner DeWitt, Lavaca, Victoria and Jackson counties. **Means of Discovery:** Geophysics. **Discovery Data:** The Texas Co.'s Midgett 1, Oct. 14, 1934; 10,000,000 cu ft gas per day, total depth 5750 ft, producing horizon 2823-40 ft, 7-in casing 2823 ft. **Structure:** Anticline. **Elevation:** 120 ft. **Formation, Depth, Gravity:** Catahoula, 2840 ft. gas. **Productive Area:** 80 acres. **Development to July 1, 1939:** 1 gas, 4 failures. **Deepest Hole:** Discovery. **Outlet:** Southwest Gas Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** The Texas Co., Wellington Oil Co. **Remarks:** Considered to be a Class A Sparta-Wilcox prospect and efforts are now being made by Jack Frazier and Wellington Oil Co. to drill 9000-ft Wilcox test.

EAST PLACEDO

2 mi e of Placedo, E. Benavides Survey. **Means of Discovery:** Seismograph, also sub-surface correlation between Placedo and Keeran field. **Discovery Data:** Stanolind Oil & Gas Co.'s Henderson & Pickering 1, Dec. 13, 1937, 7502 ft, set 7-in casing, 6424 ft; plugged 6384 ft, perforated 6372-75 ft; flowed 147.52 bbls fluid, 10½ hours, 42% 37.4-gr oil, through 3/16-in choke; tubing pressure 560 lbs, casing pressure 1180 lbs; sand 6372-78 ft. **Structure:** Nosing off anticline comprising the Placedo group. **Elevation:** 55 ft. **Formation, Depth, Gravity:** Heterostegina, 4750 ft, gas; Frio 5300 ft, gas with distillate odor; 6375 ft, 37.4-gr. **Productive Area:** 650 acres, 240 oil, 400 gas, 410 undeveloped. **Development to July 1, 1939:** 13 wells; 9 oil, 2 gas, 2 failures. **Expected Ultimate Recovery:** 2,040,000 bbls. **Produced to July 1, 1939:** 186,364 bbls. **Remaining Reserve:** 1,853,636 bbls. **Deepest Hole:** Discovery well. **Development and Producing Methods:** 10¾-in, 1200 ft; 7-in through sand and perforated. Several wells making small amount of salt water, all wells are flowing. **Outlet:** Barnsdall Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholder:** Stanolind Oil & Gas Co.

HUGHES‡

2½ mi se Victoria, F. Dimmitt Grant. **Means of Discovery:** Magnetometer and geological survey. **Discovery Data:** Portilla Drilling Co.'s Welder 1, Aug. 16, 1936, 20,000,000 cu ft gas; 4279 ft, 1500 lbs rock pressure, producing horizon 4276-79 ft, well showed some oil. **Structure:** Domal type structure, some sand lensing and faulting. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Marginulina 4280 ft, gas; Frio 4850 ft, 43-gr. **Productive Area:** 320 acres. **Development to July 1, 1939:** 5 wells, 1 oil, 2 gas, 2 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Portilla Drilling Co.'s Welder 1-A; abnd 6168 ft, March 5, 1938. **Development and Producing Methods:** 10-in, 1000 ft, 5½-in through sand and perforated. **Outlet:** Shut in. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Portilla Drilling Co.

JAY WELDER*

7 mi e Nursery, centering around Samuel Belding Sur. **Means of Discovery:** Geophysics. **Development:** Plymouth Oil Co.'s J. J. Welder 1, abnd Jan. 15, 1937, 6648 ft. Had series of sands through the Cockfield and Yegua. One of 5666-5727 ft developed 650 lbs pressure with 1 joint of mud cut with distillate. Several other similar shows encountered. Plymouth Oil Co.'s J. J. Welder 1-A, Samuel Belding Survey, abnd 2941 ft, March 10, 1937. **Principal Leaseholders:** Plymouth Oil Co., Humble Oil & Refining Co.

KEERAN

15 mi se Victoria, Martin de Leon Sur. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** CR&M Drilling Co. et al's Keeran 1, Jan. 31, 1932, 50,000,000 cu ft gas, 30 bbls gasoline, ¼-in choke, 2250 lbs working pressure; total depth 5191 ft, producing horizon 5831-41 ft. **Structure:** Domal type structure, closure to e not yet defined. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Heterostegina, 4800 ft, gas; Marginulina, 5190 ft, gasoline; Frio, 5500 ft, 56-gr; 5700 ft, 37-gr; 5840 ft, 38-gr; 6050 ft, 42-gr; 7000 ft, 40.1-gr. **Productive Area:** 2000 acres, 620 oil, 2000 acres gas, 400 undeveloped. **Development to July 1, 1939:** 26 wells; 18 oil, 3 gas, 5 failures. **Expected Ultimate Recovery:** 8,060,000 bbls. **Produced to July 1, 1939:** 372,598 bbls. **Remaining Reserve:** 7,687,382 bbls. **Deepest Hole:** Barnsdall Oil Co.'s Keeran 2, 7707 ft, plugged back and completed Nov. 29, 1938, in 7000-ft sand. **Development and Producing Methods:** 13⅜-in, 200 ft, 10¾-in, 1500 ft, producing string through sand; all wells flowing, several making some water. **Outlets:** Gulf Pipe Line Co., Barnsdall Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Barnsdall Oil Co., Gulf Oil Corp., Union Oil Co.

McFADDIN

Including portions of Maria Josefa Traviesa, J. Varin, C. O. Edwards, Foster Lewers, Field Jones, C. M. B. Hoyd, John Rine and adjoining surveys. **Means of Discovery:** Geological sub-surface work and shallow water wells. **Discovery Data:** Lion Oil Refining Co.'s McFaddin 1, June 21, 1930, 40,000,000 cu ft gas, ⅝-in choke; 1750 lbs casing pressure; total depth 3749 ft, elev 36 ft, sand 3742-49 ft. **Structure:** Large anticlinal type struc-

* Prospect. ‡ Gas field.

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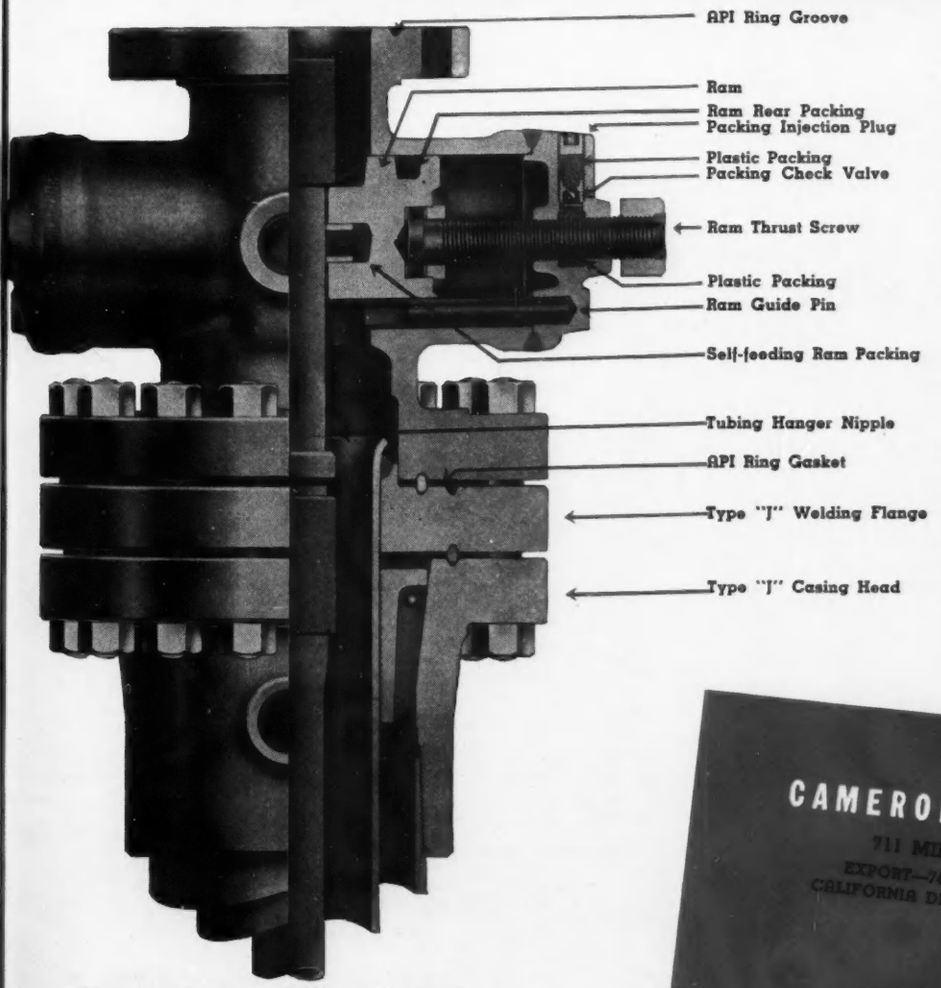

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ture, possible several local saddles and sand lenses from which oil and gas will be developed. Larger gas sands (mainly 3700 ft) are generally a blanket affair. **Elevation:** 40 ft. **Formation, Depth, Gravity:** Oakville through Marginulina producing as, mainly at 2000, 2200, 2450, 3500, 3700, 4700 (sprayed oil), 5180 ft; 5300 ft; Frio, 5830 ft, 38-gr; 6175 ft, 47-gr. Later Heterostegina production (4400 ft) some as Greta 22.4-gr. **Productive Area:** 12,000 acres, 520 oil, 12,000 gas, 400 undeveloped. **Development to July 1, 1939:** 74 wells; 47 oil, 18 gas, 19 failures; 23 oil, 1 gas, 2 failures drilled first six months, 1939. **Expected Ultimate Recovery:** 871,077 bbls. **Produced to July 1, 1939:** 871,077 bbls. **Remaining Reserve:** 4,848,923 bbls. **Deepest Hole:** The Texas Co.'s McFaddin 3, abnd 7025 ft Jan. 1, 1932, at 5828-32 ft for 750 bbls per day, ⅝-in choke, but went dead. **Development and Producing Methods:** In oil area, 16-in casing, 100 ft; 10-in casing, 1500 ft, 7-in casing at top of sand, practically all wells flowing, several making small amount of salt water. Due to fact that district has seen many blowouts and craters, precautions are taken by the use of heavy mud and several strings of casing. **Outlets:** Local outlet. Gas to United Gas System. Oil by Barnsdall Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Barnsdall Oil Co., Transwestern Oil Co., Shell Oil Co., Union Prod. Co., The Texas Co., Houston Oil Co., Humble Oil & Refining Co., Lion.

NORTH McFADDIN

West of Guadalupe River, Calhoun County line, Jules Vairin Survey. **Means of Discovery:** Geophysical survey, and geological information. **Discovery Data:** T. B. Slick's McFaddin 1, July 20, 1933, 3512 ft, flowed 40,000,000 cu ft of gas per day and showed 1700 lbs working pressure on tubing when cut back to ¼-in choke. Oct. 24, 1937, re-completed in sand 4477-4505 ft, 115 bbls in 12 hours, using outside pressure and flow valves. Well made some water. This established oil production in second sand of field. **Structure:** A domal feature, off the general McFaddin group. **Elevation:** 50 ft. **Formation, Depth, Gravity:** Catahoula, 3500 ft, gas, Heterostegina 35 ft above Greta, known as Stringer sand, 25-gr; Frio, 5200 ft, gas. **Productive Area:** 800 acres, 60 oil, rest in gas. **Development to July 1, 1939:** 7 wells; 2 oil, 3 gas, 2 failures. **Expected Ultimate Recovery:** No estimate as yet. This field has shown a high gas oil and a limited amount of crude has been produced (this figure included in McFaddin proper). Area still is in exploratory stage for oil. **Deepest Hole:** Slick Seeligson Corp.'s McFaddin 2, 6810 ft, plugged back and completed January 20, 1935 at 4444 ft, as gasser showing little oil. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholder:** Transwestern Oil Co. **Remarks:** Humble Oil & Refining Co. drilled Peter Rudolph 1, 3 mi ne of this area, on a prospect worked by seismograph and torsion balance. It was carried to 6962 ft on Oct. 31, 1935. It showed salt water in sands at 2672-82, 3475-79 ft; but was estimated as a 40,000,000 gas well capable of spraying some oil at 5185-5200 ft. It showed salty mud and gas at 5232-43 ft, salt water at 6240-50 ft; salt water 6505-12 ft; and 6657-6764 ft. It is not known whether this well is on the same structure with North McFaddin.

NURSERY*

North of Nursery, S. de Leon, AA&MG and IRR surveys. **Means of Discovery:** Geophysical and geological information. **Development:** Quintana Petroleum Co.'s McCormick 1, abnd March 29, 1933, 7400 ft, 150 ft in Cook Mountain; 1500 lbs pressure from a section of sand and shale at 3330-6030 ft. Humble Oil & Refining Co. had previously drilled J. Welder 3-A to 5896 ft. Humble originally developed this area with a number of shallow gas wells. Deeper exploration failed to develop oil production.

PLACEDO

Nancy Dean, Wm. Rupley, E. Benavides, S.A.&M.G. Railway, J. Brownson, A. Murrary surveys, at Placedo. **Means of Discovery:** Geophysical prospect, trend play, geological information. **Discovery Data:** L. A. Gillispie et al's Henderson & Pickering 1, April 13, 1935; 341 bbls 35-gr oil, 3/16-in choke, 1700 lbs tubing, 2300 lbs casing pressure; total depth 6018 ft, producing horizon 6005-18 ft, 7-in 6001 ft. **Structure:** Anticlinal structure with some sand lenses. **Elevation:** 56 ft. **Formation, Depth, Gravity:** Heterostegina, 4750 ft, 23.5-gr; Frio, 5330 ft, gas and 55-gr distillate; 5900 ft, 36-gr; 6000 ft, 36.5 gr; 6050 ft, 35.5-gr. **Productive Area:** 2720 acres, 1680 oil, 2000 gas, 200 undeveloped. **Development to July 1, 1939:** 183 wells; 164 oil, 8 gas, 11 failures. **Expected Ultimate Recovery:** 25,200,000 bbls. **Produced to January 1, 1939:** 8,497,095 bbls. **Remaining Reserve:** 16,702,905 bbls. **Deepest Hole:** Barnsdall and American Liberty's Pickering 10, Wm. Rupley Survey, 6795 ft, June 26, 1937, 20 million cu ft gas daily through perforations 5332-43 ft, 1375 lbs pressure. **Development and Producing Methods:** 10¾-in. at 850 ft, 7-in above 4700-ft sand and 7-in or 5½-in through deeper sand, perforated. Many wells in field on pump. **Outlets:** Barnsdall Pipe Line Co., Humble Pipe Line Co. Several loading racks to railroads crossing field. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** American Liberty Oil Co., Barnsdall Oil Co., Shell Oil Co., Felmont Oil Corp., Crown Central Petroleum Corp., Eastern Texas Oil Co., Costa Oil Co., Magnolia Petroleum Co., Sun Oil Co., Superior Oil & Gas Co., E. L. Smith, Abercrombie & Harrison, Commonwealth Oil & Gas Co., J. C. Drilling Co., H. B. Ownsby Drilling Co., Westgate-Greenland Oil Co., Yost & Yost.

TELFERNER‡

T&NO Section 1, 4 mi nw Telferner. **Means of Discovery:** Surface evidence. Subsurface correlations. Torsion balance and seismograph. **Discovery Data:** Magnolia Petroleum Co.'s Beck 1, Jan. 7, 1937, 27½ million cu ft gas open casing, flow through ½-in choke; tubing pressure 1000 lbs; casing pressure 1500 lbs; td 4812 ft, plug back to 3590 ft, perforated 3578-82 ft. **Structure:** Probable salt dome. **Elevation:** 120 ft. **Formation, Depth, Gravity:** Oakville, 2525 ft, gas; Catahoula, 3580 ft, gas. **Productive Area:** 320 acres. **Development to July 1, 1939:** 14 wells; 5 gas wells, 9 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Gulf Oil Corp.-Mahone & Buhler 1, abnd Dec. 6, 1937, 7666 ft in heaving shale. **Rigs Running:** None. **Principal Leaseholders:** Magnolia Petroleum Co., Gulf Oil Corp., Houston Oil Co., John Mayo, Western Gulf Producing Co. **Remarks:** This well is several hundred ft higher than nearby wells, indicating important uplift.

WARDEN‡

12 mi s Victoria, Edward McDonough league. **Means of Discovery:** Geophysics. **Discovery Data:** The Texas Co. et al's Warden 1, 3,000,000 cu ft gas, ¼-in choke, 1800 lbs tubing, 1840 lbs casing pressure, 5629 ft, producing horizon 4488-96 ft, elev 110 ft, plugged back and redrilled to 4496 ft. **Structure:** Sand lensing. **Elevation:** 110 ft. **Formation, Depth, Gravity:** Marginulina, 4500 ft, gas. **Productive Area:** 120 acres. **Development to July 1, 1939:** 1 gas, 1 failure. **Expected Ultimate Recovery:** Gas field, shut in. **Principal Leaseholders:** The Texas Co., Standard Oil Co. of Texas, Shell Oil Co., Magnolia Petroleum Co., Arkansas Fuel Oil Co., Wallace and Sollars et al., British-American Oil Producing Co.

R. H. WELDER (Thomaston)*

9 mi n Nursery, GH&MG Section 15, SA&MG Survey, near DeWitt County. **Means of Discovery:** Seismograph, magnetometer, geological data. **Development to July 1, 1939:** Plymouth Oil Co.'s Welder 1, abnd 6181 ft, Nov. 22, 1936. Drill-stem test 5641-60 ft recovered 20 ft mud cut with oil, 225 lbs pressure, 15 minutes. **Principal Leaseholders:** Humble Oil & Refining Co., Plymouth Oil Co.

VICTORIA

1½ mi s Victoria, Victoria town Grant. **Means of Discovery:** Geological and geophysical information. **Discovery Data:** John Mayo and Trinity Drillers, Inc.'s Vogt 1, Sept. 16, 1939, 2,500,000 cu ft gas, 5 bbls oil and salt water per day, 9/64-inch choke, 600 lbs tubing, 750 lbs casing pressure; total depth 5525 ft, perforated 2552-55 ft and 2572-77 ft. **Structure:** Unknown, likely nosing and sand lensing. **Elevation:** 66 ft. **Formation, Depth, Gravity:** Catahoula, 2550-70 ft, gas. **Productive Area:** 10 acres. **Development to July 1, 1939:** 1 failure. **Expected Ultimate Recovery:** Gas field. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** John Mayo, Trinity Drillers, Inc., Shell Oil Co., Harry Pennington, Rhea Nixon, H. H. Weinert, A. Rogers.

WEBB COUNTY

ADAMI

Northeast corner of county, 20 mi nw Freer, A.B.&M. Sur. 345. **Means of Discovery:** Trend Drilling and following of sand lensing and oil showing. **Discovery Data:** Gordon W. Johnson's Adami 1, May 15, 1939, 85 bbls 20.5-gr oil per day, pumping, producing horizon 992-99 ft, total depth 999 ft. **Structure:** Production merely result of drilling just down-dip from pinch-out of Mirando sand. **Elevation:** 326 ft. **Formation, Depth, Gravity:** Mirando, 990 ft, 20.5 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 1 oil, 1 failure. **Expected Ultimate Recovery:** 3500 bbls. **Produced to July 1, 1939:** 6605 bbls. **Remaining Reserve:** 63,395 bbls. **Deepest Hole:** Discovery. **Development and Producing Methods:** 10-in csg 20 ft; 4-in csg, 989 ft, atop sand and well on pump. **Rigs Running July 1, 1939:** 2. **Outlet:** Trucks. **Principal Leaseholders:** G. W. Johnson, et al, Brown & Dovre, Colmena Oil Co., Bridwell Oil Co., Arkansas Fuel Oil Co., Humble Oil & Refining Co.

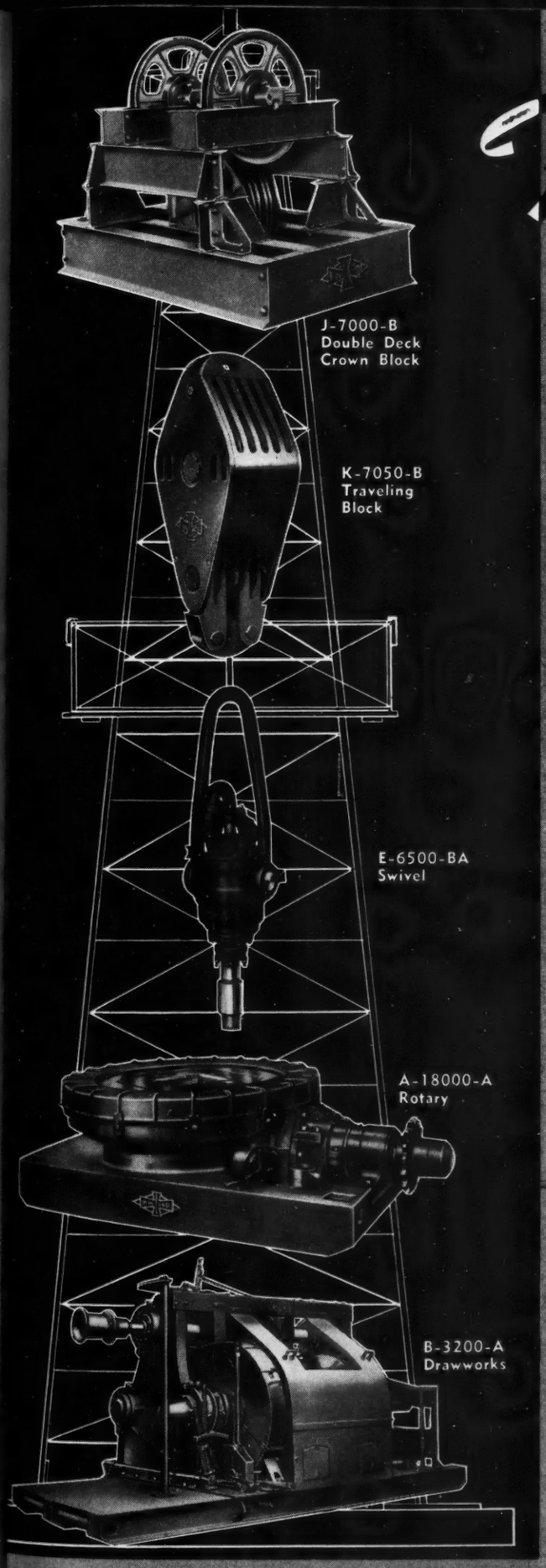
ALBERCAS

Albercas Grant, se part county. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Simms Oil Co.'s Bruni 1, March 16, 1927, 50,000,000 cu ft gas, spray 21-gr oil, 2158 ft, sand 2141-58 ft, 6⅝-in 2155 ft, 600 lbs rock pressure, elev 837 ft. **Structure:** Sand lens on fold. **Elevation:** 840 ft. **Formation, Depth, Gravity:** Upper Jackson, 2150 ft, 21 gr. **Productive Area:** 450 acres, 300 oil, 200 gas. **Development to July 1, 1939:** 114 wells, 88 oil, 12 gas, 14 failures. **Expected Ultimate Recovery:** 2,700,000 bbls. **Produced to July 1, 1939:** 2,460,947 bbls. **Remaining Reserve:** 239,053 bbls. **Deepest Hole:** O. W. Killam's Bruni 1, block 55, abnd Jan. 27, 1935, 3710 ft. **Development and Producing Methods:** 10-in 40; 7-in atop sand; all wells on pump, from central powers. Some making water. **Outlets:** Humble Pipe Line Co, Texapata Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** O. W. Killam, Magnolia Petroleum Co., Star State Oil Co.

AVIATOR

4 mi s Mirando City, sections 53, 54, 58, Los Ojuelos grant. **Means of Discovery:** Trend play, geological information. **Discovery Data:** Aviator Oil Co.'s Pulg 1, May 28, 1922, 25,000,000 cu ft gas spraying 21-gr oil, total depth 1586 ft, sand 1578-86 ft, elev. 865 ft. **Structure:** Sand lensing structure, faulting at n end of structure. **Elevation:** 860 ft. **Formation, Depth, Gravity:** Mirando sand in Jackson zone, 1575 ft, 21 gr. **Productive Area:** 1280 acres, 980 oil, 300 gas. **Development to July 1, 1939:** 236 wells, 198 oil, 18 gas, 20 failures. **Expected Ultimate Recovery:** 6,448,400 bbls. **Produced to July 1, 1939:** 5,795,911 bbls. **Remaining Reserve:** 652,489 bbls. **Deepest Hole:** Simms Oil Co.'s Bruni 1, 3975 ft, plugged back as gasser in 1500-ft sand. **Development and Producing Methods:** 10-in 40 ft, producing string atop sand; wells on pump making some water. **Outlets:** Crown Central Petroleum Corp., Texapata Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Buck Oil Co., Crown Central Petroleum Corp., Magnolia Petroleum Co., C. R. Mayberry, Staley-Wynn Oil Corp.

* Prospect. ‡ Gas field.



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CAROLINA-TEXAS

Sections 336, 268, 335 and adjoining sections. **Means of Discovery:** Geological information and trend play. **Discovery Data:** Carolina-Texas Oil & Gas Co.'s Barnsley 1, Nov. 19, 1921, 15,000,000 cu ft gas, 1280 ft; sand 1270-80 ft, elev 792 ft. **Structure:** Domal type structure, trending ne and sw, 2 separate highs on general structure, sand lensing. **Elevation:** 770-800 ft. **Formation, Depth, Gravity:** Upper Jackson (Fayette), 1280 ft, gas; McElroy, 2000 ft, gas; Cockfield, 2600 ft, 34 gr; Yegua, 3000 ft, 46 gr; Mount Selman (Queen City) 5000 ft, 42.5 gr. **Productive Area:** 1620 acres, 180 oil, 1440 gas. **Development to July 1, 1939:** 98 wells, 15 oil 50 gas, 33 failures. **Expected Ultimate Recovery:** 450,000 bbls. **Produced to July 1, 1939:** 254,804 bbls. **Remaining Reserve:** 190,196 bbls. **Deepest Hole:** Holland Reavis' Webster 1, abnd 5527 ft, Feb. 20, 1936 in Mount Selman (Queen City) 500 ft, 42.5 gr. **Development and Producing Methods:** 10-in, 40 ft, producing string atop sand; majority of wells producing gas although some pumping oil. **Outlets:** United Gas System taking gas, oil to local gathering system. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Foster Barnsley, Carson & Co.

COLE GROUP

In Webb and Duval Counties, Sections 323, 319, 26, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 7 and 8. Part Jofesa Cuellar gr. Mariano Arispe gr, centering around Bruni. **Means of Discovery:** Geological data, trend play. **Discovery Data:** Cole Petroleum Co.'s Benavides 4, July 20, 1924, 69,000,000 cu ft gas, 1705 ft, producing horizon 1760-1755 ft. **Structure:** Series of sand lenses on large structure, with series of local highs, sand lenses close on w and dip to e. **Elevation:** 700-800 ft. **Formation, Depth, Gravity:** Frio, 500 ft, gas; Upper Jackson (Cole) gas; McElroy, Jackson age, 2450 ft, gas; Cockfield (O'Hern sand) 2725-2900 ft, 28.5 gr; Yegua, 2950 ft, (at Bruni townsite) gas, 36 gr.; 3280 ft, 36 gr; Yegua (Bruni sand) 3460 ft, 41.7 gr. **Productive Area:** 12,500 acres, 3160 oil, 12 500 gas, 300 undeveloped. **Development to July 1, 1939:** 523 wells; 263 oil, 155 gas, 105 failures. **Expected Ultimate Recovery:** 27,444,152 bbls. **Produced to July 1, 1939:** 10,576,821 bbls. **Remaining Reserve:** 16,867,331 bbls. **Deepest Hole:** Cole Petroleum Co.'s Benavides 75, blk 8, sec 19, abnd 6394 ft. **Development and Producing Methods:** 10¾-in, 40 ft; 7-in atop sand to upper zones and through sands, perforated in lower levels. **Outlets:** Humble Pipe Line Co., Magnolia Pipe Line Co., Houston Pipe Line Co., Houston Oil Co., Border Gas Line Co., United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** American Liberty Oil Co., Cole Petroleum Co., Gulf Stream, Inc., Highland Oil Co., O. W. Killam, Tidewater Associated Oil Co., Magnolia Petroleum Co., Tucker & Stapper, Hamill & Smith, Mims Bros., James P. Nash, John J. O'Hern, Peggy Sue Oil Co., H. J. Porter, Otis Phillips, Salt Dome Oil Corp., Sun Oil Co., The Texas Co. **Remarks:** See Cole-Bruni and Cole-O'Hern Field.

COLE-BRUNI

Centers around point just s of Bruni townsite. **Means of Discovery:** Deeper drilling proved structure. Geological information indicated favorable area. **Discovery Data:** United Prod. Co.'s Bruni Estate 1, June 6, 1934, 60 bbls 41.7-gr oil per day on gas jet, 3417 ft, sand 4510-17 ft, casing pressure 250 lbs; later drilled to 3444 ft, showed salt water, plugged back 3439 ft, recompleted 50 bbls. per day. **Structure:** Local domal-type structure on big structure. **Elevation:** 780 ft. **Formation, Depth, Gravity:** Lower Yegua, 3250 ft, 36 gr; 3400, 41.7 gr. **Productive Area:** 840 acres, 640 acres oil, 840 gas, 200 undeveloped. **Development to July 1, 1939:** 84 wells, 52 oil, 8 gas, 24 failures. **Expected Ultimate Recovery:** 4,800,000 bbls. **Produced to July 1, 1939:** 2,506,290 bbls. **Remaining Reserve:** 2,293,710 bbls. **Deepest Hole:** See Cole Group. Tidewated Associated Oil Co. now drilling 9200-foot Wilcox sand test in Bruni portion of field. **Development and Producing Methods:** 10-in, 40 ft, producing string through sand in most cases and perforated to control gas/oil ratio. Wells making considerable water. **Outlets:** Humble Pipe Line Co., Magnolia Pipe Line Co., Houston Pipe Line Co., Houston Oil Co., United Gas System. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** American-Liberty Oil Co., Cole Petroleum Co., Gulf Stream, Inc., Highland Oil Co., O. W. Killam, Magnolia Petroleum Co., Tide Water Associated Oil Co.

COLE-O'HERN

Including portions of Mariano Arispe Grant and El Mesquite Grant, about 2 mi s Bruni, in Webb and Duval Counties. **Means of Discovery:** Deeper drilling on proved structure. Geological information indicated favorable area. **Discovery Data:** O'Hern & Seacord's Benavides 2, Jan. 11, 1927, 70,000,000 cu ft gas, total depth 2735 ft, sand 2725-35 ft, 28.5 gr. oil produced in same sand. **Structure:** Sand lensing on large domal-type structure. **Elevation:** 740 ft. **Formation, Depth, Gravity:** Cockfield or Basal Jackson, 2750-2900 ft, 28.5 gr oil. **Productive Area:** 3000 acres, 2400 oil, 3000 gas. **Development to July 1, 1939:** 268 wells, 245 oil, 5 gas, 18 failures. **Expected Ultimate Recovery:** 21,600,000 bbls. **Produced to July 1, 1939:** 7,026,370 bbls. **Remaining Reserve:** 14,473,630 bbls. **Deepest Hole:** See Cole-Group. **Development and Producing Methods:** 10-in, 40 ft; 7-inch atop sand. Majority of wells are flowing although some on pump. Few wells making salt water. Magnolia Petroleum Co. is operating pressure maintenance plant in field. **Outlets:** Magnolia Pipe Line Co., Humble Pipe Line Co., Webb County Gathering System, Saxet Heights Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Hamill & Smith, Magnolia Petroleum Co., Mims Bros., James P. Nash, John J. O'Hern, Peggy Sue Oil Co., H. J. Porter, Otis Phillips, Salt Dome Oil Corp., Sun Oil Co., The Texas Co. **Remarks:** This is a single sand in Cole field, but treated as a separate field. It is operated as single unit separate from other production in Cole area. For additional information refer to Cole group.

• Prospect. ‡ Gas field.

KILLAM

2½ mi ne Oilton, Sections 786, 333 and 1099. **Means of Discovery:** Geological information, trend play. **Discovery Data:** O. W. Killam's Laurell 1, April 20, 1937, 150 bbls 22-gr oil per day, sand 2031-35 ft, 6⅝-in casing 2026 ft. **Structure:** Sand lens, similar shore line structure to other pools along Mirando trend. **Elevation:** 870 ft. **Formation, Depth, Gravity:** Mirando sand, Jackson age, 2025 ft, 22-gr; Rosenberg sand, Cockfield, 2500 ft, wet gas. **Productive Area:** 800 acres, 630 oil, 170 gas. **Development to July 1, 1939:** 93 wells, 72 oil, 6 gas, 11 failures. **Expected Ultimate Recovery:** 4,725,000 bbls. **Produced to January 1, 1939:** 549,263 bbls. **Remaining Reserve:** 4,175,737 bbls. **Deepest Hole:** O. W. Killam's Perez 1, abnd 2558 ft, June 17, 1937, in Rosenberg sand. **Development and Producing Methods:** 10-in, at 20 to 60 ft, 5-in producing string atop sand in low pressure areas and through the sand and perforated on west side of field where gas volume high. Practically all wells on pump with some on east side making considerable salt water. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** French Oil Corp., Humble Oil & Refining Co., W. & R. Killam, O. W. Killam, Navarro Oil Co., O'Hern & Ryan, Oil Well Drilling Co.

LAUREL

2 mi n Oilton, Sections 270, 271, 720, 272, 23, 276 and 1100. **Means of Discovery:** Geological information, based mainly on dry holes. **Discovery Data:** South Texas Oil Co.'s B. Rosenberg 2 (3), June 21, 1932, 150 bbls 40-gr oil, ⅜-in choke, 2250 ft, sand 2244-50 ft, 6⅝-in casing 2241 ft, elev 775 ft. **Structure:** Several sand lenses broken by little faulting. **Elevation:** 760 to 800 ft. **Formation, Depth, Gravity:** Frio 350 ft, gas; Jackson (Mirando), 1775 ft gas; Cockfield 2250 ft, 49-gr. **Productive Area:** 300 acres, 260 oil, 40 gas. **Development to July 1, 1939:** 63 wells, 32 oil, 1 gas, 30 failures. **Expected Ultimate Recovery:** 780,000 bbls. **Produced to January 1, 1939:** 680,011 bbls. **Remaining Reserve:** 99,989 bbls. **Deepest Hole:** South Texas Oil Co.'s Laurel 1-A, abnd 3166 ft, Sept. 25, 1936 in Mount Selman formation. **Development and Producing Methods:** No recent drilling, all wells on pump, some making considerable water. **Outlet:** South Texas Oil Co. to loading rack. **Rigs Running July 1, 1939:** 1 outpost. **Principal Leaseholders:** Altholz & Guervotich, South Texas Oil Co., Smith & Storey, Houston Oil Co. of Texas, Wolcott et al.

LEASEHOLDERS

Including Sections 22, 19, 72, 70, 71, 69, 117, 17, 66 and 14, east central section of county. **Means of Discovery:** Geological information and trend play. **Discovery Data:** Leaseholders Producing & Refining Corp.'s Gates 2, Sept. 16, 1922, 70 bbls 22-gr oil, 1055 ft, sand 1049-55 ft; 6⅝-in casing 1030 ft. **Structure:** Small sand lens. **Elevation:** 270 ft. **Formation, Depth, Gravity:** Frio, 270 ft, gas; Jackson 1050 ft, 22-gr. **Productive Area:** 40 acres, 10 oil, 40 gas. **Development to July 1, 1939:** 40 wells; 2 oil, 1 gas, 37 failures. **Expected Ultimate Recovery:** 25,000 bbls. **Remaining Reserve:** 25,000 bbls. **Deepest Hole:** Cintex Petroleum Co.'s Peal 1, abnd 3034 ft, April 25, 1927. **Development and Producing Methods:** Field abnd. **Outlets:** None. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Gates Ranch Oil Co., Mills Bennett.

LOMA VALDEZ‡

10 mi s Bruni, Survey 499. **Means of Discovery:** Subsurface geology, discovery drilled up dip from salt water well and downdip from well in which sand lensed out. **Discovery Data:** H. E. Nessly's Bruni 3, Jan. 1, 1939, 7,000,000 cu ft gas per day, ⅜-in choke; 400 lbs tubing, 450 lbs casing pressures; production horizon 1790-1804 ft, total depth 1850 ft, perforated 1804-08 ft. **Structure:** Nose with sand lens. **Elevation:** 808 ft. **Formation, Depth, Gravity:** Cole, 1800 ft, gas. **Productive Area:** 40 acres. **Development to July 1, 1939:** 4 wells, 1 gas, 3 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Nessly's Bruni 1, abnd Nov. 18, 1936, 3528 ft; elev 783 ft. Top Mirando 2788 ft, Cole sand 1908-81 ft, salt water. **Development and Producing Methods:** 10-in, 22 ft; 5½-in, 1850 ft, perforated. Only one producer completed. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Ohio Oil Co., Atlantic Refining Co., J. L. Collins Co., Sulgrave Oil Corp., Red Bank Oil Co., Gulf Coast Royalty Co., Milam Drilling Co., Magnolia Petroleum Co.

LOPEZ

In Webb and Duval Counties, Sections 796, 383, 72, 73, 114, 113, 112, 111, 110 and 109, 14 mi n Bruni. **Means of Discovery:** Geological data, several failures had been drilled in area, providing means of correlations. **Discovery Data:** Mills Bennett's Lopez 1, June 24, 1935, 10,000,000 cu ft gas, 60 bbls 22-gr. oil, 5/16-in choke; 760 lbs tubing, 900 lbs casing pressure; total depth 2144 ft, producing horizon 2126-44 ft, perforated 2139-43 ft. **Structure:** Sand lensing on Monocline. **Elevation:** 600 to 680 ft. **Formation, Depth, Gravity:** Jackson (Mirando) 2150-2250 ft, 22-gr. **Productive Area:** 3650 acres, 3480 oil, 160 gas. **Development to July 1, 1939:** 351 wells, 319 oil, 14 gas, 18 failures. **Expected Ultimate Recovery:** 38,280,000 bbls. **Produced to January 1, 1939:** 7,519,707 bbls. **Remaining Reserve:** 29,760,293 bbls. **Deepest Hole:** Sierra Oil & Royalty Co.'s Billings 1-A, Sur 113, abnd 3437 ft, March 21, 1937. Originally completed at 2211 ft as oil producer. **Development and Producing Methods:** Some wells are pumping, but large number still flowing naturally or through lifts. No recent drilling. Some water produced on east edge of structure. **Outlets:** Magnolia Pipe Line Co., Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** A. S. Billings, George Buck, Cox & Hamon, Gem Oil Co., Humble Oil & Refining Co., Hunter Co., Magnolia Petroleum Co., Mills Bennett Production Co., Montour Production Co., Mortimer & Springer, Sierra Oil & Royalty Co., Superior Oil Co., Superior Oil Corp.

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MIRANDO CITY

Sections 457, 458, 58, 592, 1101, 54, 55, 460, 461, 2340, 463, 771, 2253, 2168, 462, 2341, 786 s Mirando City. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Schott Oil Co.'s Garcia 2, Dec. 10, 1921, 50,000,000 cu ft gas, 75 bbls 21.4-gr oil, 1540 ft, producing horizon 1530-40 ft, elev. 776 ft. **Structure:** Sand lensing. **Elevation:** 740 to 780 ft. **Formation, Depth, Gravity:** Hockleyensis section of Jackson age, 1540 ft, 21.4 gr; Cockfield 1935 ft, 45-gr. **Productive Area:** 2400 acres, 1400 oil, 1000 gas. **Development to July 1, 1939:** 365 wells, 277 oil, 18 gas, 70 failures. **Expected Ultimate Recovery:** 9,030,000 bbls. **Produced to January 1, 1939:** 8,945,914 bbls. **Remaining Reserve:** 84,086 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Garcia 1, abnd 4194 ft. **Development and Producing Methods:** All wells on pump. This field has been subjected to a reworking program several times and apparently is nearing depletion. Wells producing from central powers. **Outlets:** Crown Central Petroleum Corp., Texapata Refining Co., Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Amigos Oil Co., Crown Central Petroleum Corp., Grayburg Oil Co., Laredo Oil Co., Linedo Oil Co., Magnolia Petroleum Co., Ross Segundo Oil Co.

MOCA

12 mi w Freer, Zapata County Land Survey No. 3, southeastern portion of county, Section 3. **Means of Discovery:** Geological information. **Discovery Data:** Moca Oil Co.'s (was Milam Drilling Co.) Duval County Ranch Co. 1, Dec. 16, 1932, 100 bbls 21-gr oil, 909 ft, producing horizon 903-09 ft. **Structure:** Small sand lens, possibly some faulting. **Elevation:** 500 ft. **Formation, Depth, Gravity:** Mirando sand, middle Jackson, 900 ft, 21-gr. **Productive Area:** 90 acres. **Development to July 1, 1939:** 16 wells, 9 oil, 2 gas, 5 failures. **Expected Ultimate Recovery:** 1,305,000 bbls. **Produced to January 1, 1939:** 922,777 bbls. **Remaining Reserve:** 382,223 bbls. **Deepest Hole:** Quintana Petroleum Co.'s Duval County Ranch Co. 1, dr to 2178 ft, pb and comp in regular 900-ft sand as oil well. **Development and Producing Methods:** All wells on pump, central powers. **Outlet:** Crude Oil Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Moca Oil Co., Quintana Petroleum Co., Soto Oil Corp.

NORTH KILLAM

One mi north Killam field, ½ mi e Houser discovery, Sec. 331. **Means of Discovery:** Trend Drilling and subsurface information. **Discovery Data:** Dovre et al's Zapata (Enrique Guerra) 1, Dec. 23, 1938, 142 bbls 22-gr oil per day, pumping; producing horizon 2046-51 ft, total depth 2112 ft, perforated 2046-51½ ft. **Structure:** Sand lensing, but in separate lens in Mirando sand from Killam field proper. **Elevation:** 914 ft. **Formation, Depth, Gravity:** Mirando, Middle Jackson, 2045 ft, 22 gr; Rosenberg, Cockfield, 2500 ft, wet gas. **Productive Area:** 340 acres, 80 oil, 160 gas, 120 undeveloped. **Development to July 1, 1939:** 15 wells, 5 oil, 2 gas, 8 failures. **Expected Ultimate Recovery:** 520,000 bbls. **Produced to January 1, 1939:** 22,348 bbls. **Remaining Reserve:** 497,652 bbls. **Deepest Hole:** V. G. Schimmel's Laurel 1, abnd 3060 ft, Aug. 19, 1939. **Development and Producing Methods:** 10¾-in, 60 ft, 5½-in through sand and perforated in most completions. All wells on pump, several making water. **Outlets:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** V. G. Schimmel, Taylor Refining Co., J. M. Anderson, O. W. Killam, Humble Oil & Refining Co., Magnolia Petroleum Co., Superior Oil Co., Kirkwood & Morgan. **Remarks:** While the above well is classified as the discovery, two gas wells previously have been completed in area. W. F. Houser's Garcia-Villareal 1, west of this pool's Mirando sand oil wells, July 16, 1938, large volume gas ¼-in choke, 800 lbs working pressure, 1100 pounds closed in pressure. Total depth 2524 ft, perforated 2494-98 ft. It also showed gas in the Mirando sand. M. E. Morton's Laurel 1, just south of the oil wells and now offsetting production, was completed as a gas well in the Mirando sand. Subsequent development has practically merged this pool with the original Killam field.

OILTON

Centering around town of Oilton, extending from Survey 1005 through 458. **Means of Discovery:** Trend drilling, correlations on failures and producing zones. **Discovery Data:** J. R. B. Moore (later Gypsy Oil Co.) Martin 1, August 3, 1937, 110 bbls 21-gr oil; total depth 1943 ft, producing horizon broken sand 1915-35 ft, good oil sand 1935-43 ft. **Structure:** Sand lensing along usual Mirando sand shore line. **Elevation:** 850-900 ft. **Formation, Depth, Gravity:** Mirando sand, middle Jackson, 1900 ft, 21 gr; Rosenberg sand, Cockfield, 2400 ft, dry gas. **Productive Area:** 850 acres, 660 oil, 190 in gas. **Development to July 1, 1939:** 151 wells; 118 oil, 9 gas, 26 failures. **Expected Ultimate Recovery:** 4,620,000 bbls. **Produced to January 1, 1939:** 1,030,605 bbls; 218,510 bbls recovered first six months, 1939. **Remaining Reserve:** 3,589,395 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Sprague-Fee 3, Section 2161, west of field, abnd 3148 ft, Jan. 1, 1938. M. G. Martin 1, ne cor Sur 261, abnd 3151 ft. **Development and Producing Methods:** 10 at 40 ft, 7- and 5-in producing strings to sand, wells producing on pump with central powers. Some making considerable water. Few wells abnd due to water encroachment. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** J. M. Anderson, W. H. Appell, Bridwell Oil Co., M. E. Brooks, Campbell & Killam, Cox & Hamon, Daubert & Lipscomb, Gypsy Oil Co., Hamill & Smith, Lewis H. Jones, O. W. Killam, Kirkwood & Morgan, Massingill & Belew, McCullum & Forber, J. R. B. Moore, Mountain Townsite Co., Rowan & Hope, S. S. Walkiwiak, Winsor Oil Co. **Remarks:** Includes area 1½ miles to north in Surveys 337 and 338 where J. R. B. Moore and associates drilled two wells, one completed in Rosenberg sand as dry gasser and other in Mirando as gas well spraying oil.

REISER

Centering around Sections 1618, 1617, 597, 295, 1620, 1570, 1571, 1568, 1567, 602, 296, 1914, 1619, 1517, 331, 1248, 1859, nw Aguilares. **Discovery Data:** Producers Oil Co.'s L. Reiser 2, comp in 1909, 3,000,000 cu ft gas, 1010 ft, producing horizon 1001-10 ft. **Structure:** Sand lensing. **Elevation** 700 ft. **Formation, Depth, Gravity:** Jackson series, 400 ft, 16 gr; 1000 ft, gas. **Productive Area:** 1290 acres, 20 oil, 1290 gas. **Development to July 1, 1939:** 72 wells, 3 oil, 15 gas, 54 failures. **Produced:** 4,000 bbls. **Remaining Reserve:** depleted. **Deepest Hole:** Wheatley et al's S. N. Johnson 1, abnd 3247 ft, oil sand 451-63 ft. **Outlet:** Border Gas Company. **Principal Leaseholders:** O. W. Killam, South Texas Plains Oil & Gas Co., Producers Oil Co.

VOLPE

Approx 6 mi north Bruni, 1¾ mi e West Cole field, B.S.&F. Sur. 695. **Means of Discovery:** Trend drilling and geological information. **Discovery Data:** Magnolia Petroleum Co.'s Volpe 5-B, June 20, 1939, 90.16 bbls. 22.5-gr. oil per day, pumping; producing horizon 2458-66 ft, total depth, 2466 ft. **Structure:** Monoclinal type, producing possibilities being solely in sand lensing. **Elevation:** 761 ft. **Formation, Depth, Gravity:** Mirando, 2455 ft, 22.5 gr; This is a lens known as the West Cole sand and corresponds closely to the Mirando zone in the middle Jackson. **Productive Area:** 400 acres, 80 oil, 320 undeveloped. **Development to July 1, 1939:** New field, 5 oil wells. **Expected Ultimate Recovery:** 600,000 bbls. **Produced to July 1, 1939:** 1,134 bbls. **Remaining Reserve:** 598,866 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Volpe-Benavides 8-B, abnd 3717 ft, Aug. 1, 1939. **Development and Producing Methods:** 10¾-in, 48 ft; 7 in atop sand and wells completed on pump. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Magnolia Petroleum Co., Anderson & Stieren, Harvey & Henderson, Arkansas Fuel Oil Co., Moore & Anderson, Houser & Campbell, Bridwell Oil Co., Southwest Producing Co.

WEST COLE

Sections 661, 660, 659, 696, 697, 694, 698, 701, 693, 753, 754 and 411, 2 mi nw Bruni townsite. **Means of Discovery:** Geological information, attempt to extend Cole field to west. **Discovery Data:** Cole Petroleum Co.'s Benavides 36, April 12, 1927, 80,000,000 cu ft gas, 2330 ft; producing horizon 2326 ft, elev. 790 ft, later wells developed oil production, 21.5 gravity. **Structure:** Sand lensing with oil producing on flanks. **Elevation:** 790 ft. **Formation, Depth, Gravity:** Mirando sand, Jackson, 2325 ft, 21.5 gr. Yegua, 2925 ft, gas. **Productive Area:** 1750 acres, 520 oil, 1230 gas. **Development to July 1, 1939:** 157 wells, 89 oil, 27 gas, 41 failures. **Expected Ultimate Recovery:** 4,680,000 bbls. **Produced to July 1, 1939:** 4,125,761 bbls. **Remaining Reserve:** 554,239 bbls. **Deepest Hole:** Cole Petroleum Co.'s Benavides 36, abnd 5525 ft in Mount Selman, 1927. **Development and Producing Methods:** 10-in, 60 ft, producing string atop sand. Practically all wells on pump from central powers. Considerable water being produced. **Outlets:** Houston Pipe Line Co., Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Cole Petroleum Co., French Oil Corp., Houston Oil Co., Magnolia Petroleum Co., V. G. Schimmel.

WILLACY COUNTY

LA SAL VIEJA

San Juan de Carritos Grant, south La Sal Viejo Lake, northwest portion of county. **Means of Discovery:** Geophysical prospect. **Discovery Data:** Shell Oil Co.'s Yturria Land & Cattle Co. 1, Sept. 16, 1936, 12,000,000 cu ft gas and 90 bbls 58-gr oil daily; 2050 lbs tubing pressure and 2405 lbs casing pressure; total depth 7662 ft, sand 7630-46 ft; later deepened to 10,286 ft, plugged back and abnd. **Structure:** Probably deep seated salt dome. **Elevation:** 60 ft. **Formation, Depth, Gravity:** Frio 7660 ft, 58 gr. **Productive Area:** 20 acres. **Development to July 1, 1939:** 4 wells, 1 oil, 3 failures. **Expected Ultimate Recovery:** 17,954 bbls. **Produced:** 17,954 barrels, depleted. **Deepest Hole:** discovery. **Principal Leaseholders:** Shell Oil Co., Sun Oil Co., Standard Oil Co. of Texas, C. Andrade III, Temple Hargrove, Cockburn Oil Corp. **Remarks:** Further exploration indicates that this ultimately will be developed into a distillate field and a recycling plant may be expected to be constructed.

WILLIAMSON COUNTY

BYERSVILLE

8 mi se Taylor, Cartwright, White and adjoining surveys. **Means of Discovery:** Geological information. **Discovery Data:** Fritz Fuch's Zieschang 1, Oct., 1933, 25 bbls 37 gr oil, 904 ft, producing horizon 855-904 ft. **Structure:** Domal type structure with several fingers off main structure. **Elevation:** 460 to 500 ft. **Formation, Depth, Gravity:** Serpentine, 900 ft, 37 gr. **Productive Area:** 250 acres. **Development to July 1, 1939:** 90 wells, 50 oil, 40 failures. **Expected Ultimate Recovery:** 1,125,000 bbls. **Produced to July 1, 1939:** 483,996 bbls. **Remaining Reserve:** 640,994 bbls. **Deepest Hole:** F. Goff et al's Timmerman 1, abnd 2353 ft in Ed lime topped 2270 ft, April 25, 1935. **Development and Producing Methods:** 10-in, 20 ft, 7-in stop serpentine; wells completed on pumps from central powers. **Outlet:** Taylor Refining Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Taylor Refining Co., Lanning & Coffield, B. E. Pierce.

CHAPMAN-ABBOTT

Centering around Simon Miller Survey. **Means of Discovery:** Geological information. **Discovery Data:** Chapman et al's Abbott 1-A Jan. 8, 1930, 1845 ft, 2½ million cu ft gas, 400 bbls 37.2-gr oil. **Structure:** Domal type structure. **Elevation:** 475 ft. **Formation, Depth, Gravity:** Caprock on serpentine plug, 1850 ft, 37.2-gr.

• Prospect. ‡ Gas field.

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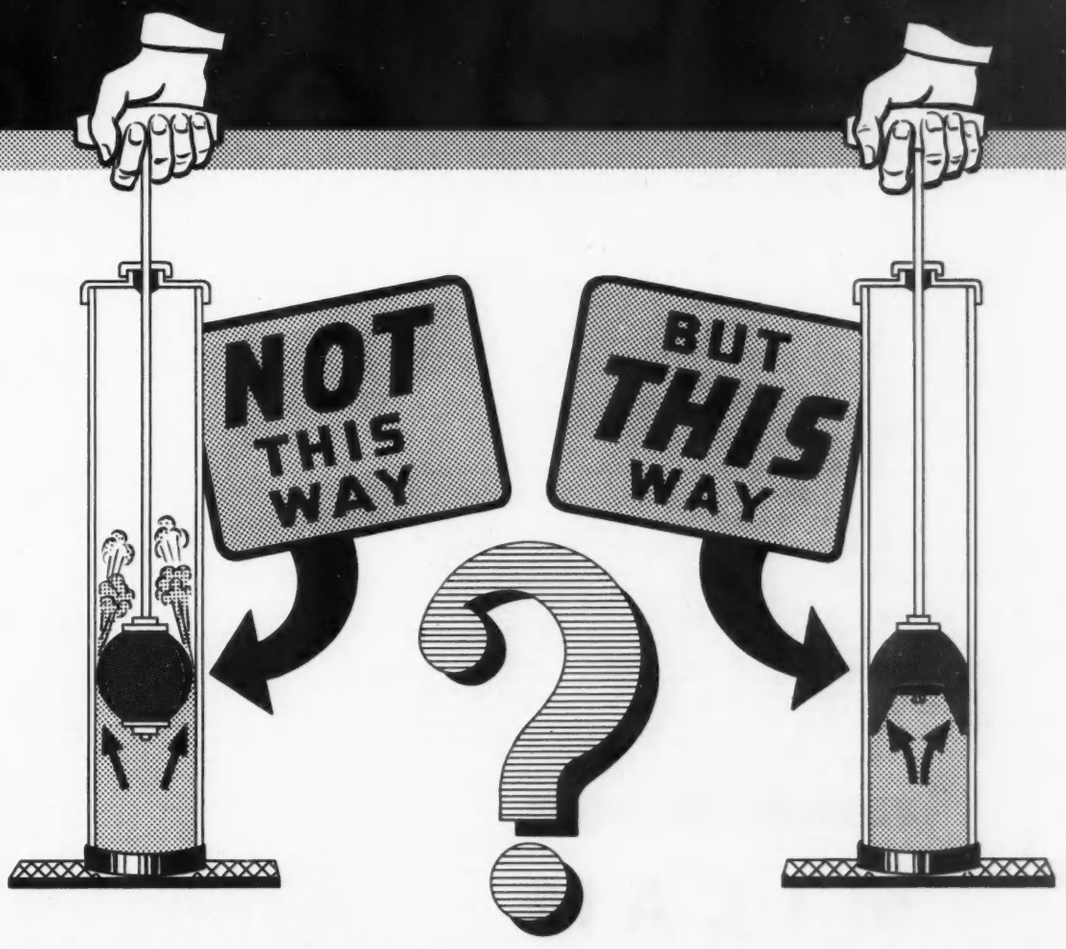

These illustrations represent blind force vs. strategy. The solid rubber thrusts downward, blind to the fact that the air pressure works directly against the rubber to force a passage past it. This type of pump could develop little pressure.

But the cupped rubber causes the air pressure to work with it to accomplish its purpose. The greater the air pressure, the tighter the seal between rubber and barrel. This type of pump can develop high pressures.

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GUIBERSON

Productive Area: 450 acres. **Development to July 1, 1939:** 153 wells, 128 oil, 25 failures. **Expected Ultimate Recovery:** 4,657,500 bbls. **Produced to January 1, 1939:** 4,360,869 bbls. **Remaining Reserve:** 297,631 bbls. **Deepest Hole:** Edwards limestone tested to 3226 ft. **Development and Producing Methods:** No new wells drilled. Many operations worked over and all wells producing on pump from central powers. Majority making some water. **Outlet:** Lanning-Coffield have gathering system. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** J. C. Abbott, C. H. Booth, Coffield H. H., Lanning & Coffield, Taylor Development Co.

SERPENTINE*

Wells scattered through western portion of Bastrop, eastern Travis and Williamson Counties. **Means of Discovery:** Mainly on magnetometer surveys. **Development:** Numerous wildcats have been drilled on magnetometer and geological prospects during the past eight years, the majority finding serpentine, but in many cases, hard and dry. These prospects are not being treated individually due to their similarity. The usual method of hunting these plugs is to work the area with magnetometer and drill on the flank of the structure. Several wells may be required to find the soft, porous, saturated section of the plug.

THRALL

Includes J. Bevil, W. Beyerby surveys, near Thrall. **Means of Discovery:** Surface indications. **Discovery Data:** Fritz Fuchs 1, Feb. 22, 1915, 950 ft, 50 bbls. 36.5-gr oil per day. **Structure:** Domal type structure. **Elevation:** 780 ft. **Formation, Depth, Gravity:** Serpentine and caprock on serpentine, 950 ft, 36.5-gr. **Productive Area:** 620 acres. **Development to July 1, 1939:** 222 wells, 192 oil, 30 failures. **Expected Ultimate Recovery:** 2,728,000 bbls. **Produced to January 1, 1939:** 2,413,339 bbls. **Remaining Reserve:** 314,661 bbls. **Deepest Hole:** Trinity formation tested to 3290 ft. **Development and Producing Methods:** All wells on pump; near depletion. **Outlets:** Magnolia Petroleum Co., O. R. Robertson. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Magnolia Petroleum Co., O. D. Robinson Oil Co.

ZAPATA COUNTY

ANDREWS‡

Sections 613, 11, 12, 182, 125, 309, 10 mi s Mirando City, at corner of Webb, Zapata and Jim Hogg Counties. **Means of Discovery:** Trend play. **Discovery Data:** Andrews Petroleum Co.'s Benavides 1, March 17, 1924, 25,000,000 cu ft gas, total depth 1535 ft, producing horizon 1511-13 ft. **Structure:** Some faulting. **Elevation:** 725 ft. **Formation, Depth, Gravity:** Jackson, 1500 ft, gas. **Productive Area:** 2000 acres. **Development to July 1, 1939:** 21 wells, 11 gas, 10 failures. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Associated Oil Co., Andrews Petroleum Co., Lowe & Rogers, O. W. Killam, L. O. Gleason.

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ALAMO NATIONAL BANK BUILDING

San Antonio, Texas

CHARCO REDONDO

Charco Redondo Grant, se part of county. **Discovery Data:** Zapata Oil & Gas Co.'s J. M. Martinez 1, 1913, 25 bbls 17-gr oil, top sand 165 ft, elev 450 ft. **Structure:** Sand lensing on shore-line structure. **Elevation:** 450 ft. **Formation, Depth, Gravity:** Frio, 180 ft, 17-gr; McElroy zone, Jackson age, gas. **Productive Area:** 570 acres, 420 oil, 150 gas. **Development to July 1, 1939:** 363 wells, 325 oil, 3 gas, 35 failures. **Expected Ultimate Recovery:** 210,000 bbls. **Produced to July 1, 1939:** 150,674 bbls. **Remaining Reserve:** 59,326 bbls. **Deepest Hole:** Well on Martinez land to below 3,000 ft. **Development and Producing Methods:** Wells on pump from central powers. **Outlet:** Humble Pipe Line Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** H. L. Curry, E. D. Mathis, Towers & Pitts, Frank J. Gravis.

COMITAS

Blocks 3, 4, 5, 7, 8, A. D. Haynes Subdivision, Comitas and Villas grants. **Means of Discovery:** Geological information and trend play. **Discovery Data:** Gunby et al's Haynes 1, Aug. 29, 1934, 30 bbls 21.4-gr oil, 6⅝-in choke, 824 ft, producing horizon 814-24 ft, elev 416.7 ft. **Structure:** Sand lensing. **Elevation:** 400 to 430 ft. **Formation, Depth, Gravity:** Upper Jackson, 800 ft, 21.4 gr. **Productive Area:** 850 acres, 750 oil, 100 undeveloped. **Development to July 1, 1939:** 226 wells, 191 oil, 2 gas, 33 failures. **Expected Ultimate Recovery:** 3,000,000 bbls. **Produced to January 1, 1939:** 995,385 bbls. **Remaining Reserve:** 2,004,615 bbls. **Deepest Hole:** Gunby et al's Haynes 3, abnd 3502 ft, Nov. 27, 1934. **Development and Producing Methods:** 10-in, 20 ft, 5- or 7-in atop sand; wells completed on pump from central power. **Outlet:** Magnolia Pipe Line Co. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** George Buck, H. H. Coffield, Gilcrease Oil Co., Magnolia Petroleum Co., Ed & Con Mims, James P. Nash, Nordan & Morris, Valley Osage Oil Co.

CUELLAR

Cerrito Blanco Grant, Sec. 245, ne Jennings gas field. **Means of Discovery:** Geological information, trend play. **Discovery Data:** Magnolia Petroleum Co.'s Cuellar 3, Feb. 14, 1927, 3,000,000 cu ft gas spraying 22-gr oil, 1250 ft, sand 1340-50 ft, elev 551 ft. **Structure:** Small sand lens. **Elevation:** 550 ft. **Formation, Depth, Gravity:** Upper Jackson series, 1100 ft, gas; 1350 ft, 22-gr. **Productive Area:** 640 acres, 450 oil, 190 gas. **Development to July 1, 1939:** 119 wells, 78 oil, 9 gas, 32 failures. **Expected Ultimate Recovery:** 2,655,000 bbls. **Produced to January 1, 1939:** 2,554,146 bbls. **Remaining Reserve:** 100,854 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Cuellar 1, abnd 3040 ft. **Development and Producing Methods:** 10-in, 40 ft; 5½-in atop sand; wells completed on pump. Number of operations producing water. **Outlet:** Texapata Refining Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** O. W. Killam, Magnolia Petroleum Co.

ESCOBAS

Las Comitas Grant, Cerrito Blanco Grant, Sec. 64, 65, 66, 412, 521. **Means of Discovery:** Geological information, drilling on flanks of large gas structure. **Discovery Data:** Muckelroy Jr.'s (Trevino Oil Co.) Trevino 1, May 26, 1929, 30,000,000 cu ft gas, and spraying 12 bbls 22.1-gr oil 1302 ft, sand 1292-1302 ft. **Structure:** Sand lensing structure. Several separate sand beds, apparently some faulting. **Elevation:** 520 ft. **Formation, Depth, Gravity:** Jackson series, 1015 ft, gas; 1150-1300 ft, 21-gr; 1450-1500 ft, 21-gr. **Productive Area:** 3820 acres, 2820 oil, 1000 gas. **Development to July 1, 1939:** 600 wells, 478 oil, 16 gas, 106 failures. **Expected Ultimate Recovery:** 13,356,000 bbls. **Produced to January 1, 1939:** 8,054,899 bbls. **Remaining Reserve:** 5,301,101 bbls. **Deepest Hole:** SR&C Oil Corp.'s E. Trevino 1, abnd 3500 ft. **Development and Producing Methods:** 10-in, 40 ft, 7-in atop sand; wells completed on pump via central power. Lots of water produced from some wells. **Outlets:** Humble Pipe Line Co., Texas Pipe Line Co. **Rigs Running July 1, 1939:** 2. **Principal Leaseholders:** Frank R. Campbell, Cron & Gracey, Dulup Oil Co., Sam Evans, Harry L. Fansler, G. E. Glasco, Kleiner & Hill, W. H. Matthews, Nordan & Morris, S. Roscoe, Transwestern Oil Corp., Trinity Drillers Inc., Zapata Corp.

JENNINGS‡

Cerrito Blanco Grant, ne portion of county. **Discovery Data:** J. D. Jennings' Whitehead 1, Mar. 19, 1914, 8,000,000 cu ft gas, 1425 ft, top sand 1410 ft, elev 482 ft. **Structure:** Large domal-type structure with axis almost due north and south, several sand lenses. **Elevation:** 480 ft. **Formation, Depth, Gravity:** Jackson series, 900 ft, 1400 and 1950 ft gas. **Productive Area,** 3,000 acres. **Development to July 1, 1939:** 38 wells, 14 gas, 24 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** The Texas Co.'s Whitehead (Jennings) 2, abnd 4645 ft, July 15, 1926; sands 3991-96 ft and 4181-83 ft showed oil and gas. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** The Texas Co., United Gas System. **Remarks:** This block extends to the Escobas field, oil production is included in that field.

LOPENO

Share 20, Porcion 19 e Lopeno. **Means of Discovery:** Geological information and geophysical work. **Discovery Data:** R. B. Morrison's Ramirez 1 (Los Burros Ranch), July 10, 1934, 20,000,000 cu ft gas, 2170 ft, 7-in 2040 ft, lime 2040-41 ft, sand 2040-64 ft, shale 2064-69 ft, sand 2069-86 ft streaky shale and lime 2086-2122 ft, shale 2122-47 ft, sand 2147-70 ft. **Structure:** Anticlinal structure with two individual highs. **Elevation:** 820 ft. **Formation, Depth, Gravity:** Queen City sand in Mount Selman, 2000-2300 ft, gas. **Productive Area:** 1000 acres. **Development to July 1, 1939:** 16 wells, 11 gas, 5 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Thompson et al's Ramirez 1, abnd 2433 ft June 7, 1939, top Mount Selman 2183 ft. **Development and Producing Methods:** 10-in, 60 ft, 5½-in through sand and perforated. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** E. A. Thompson, R. B. Morrison, Jamison et al., Thor Warner, Harry Keefe, Harry Fansler, Nordan & Morris, Wellington Oil Co., Gem Oil Co., Venture Petroleum Co., Lopeno Drilling Co.

* Prospect. ‡ Gas field.

MARTINEZ‡

Sections 2, 6, 61, 4, 285, 411, 13, 162, 161, 286, 19, 63, eastern portion of county. **Means of Discovery:** Geological information. **Discovery Data:** Magnolia Petroleum Co.'s Martinez 1, Aug. 16, 1929, 30,000,000 cu ft gas, 620 lbs rock pressure, total depth 1927 ft, sand 1921-27 ft, elev. 693 ft. **Structure:** Sand lensing structure. **Elevation:** 700 ft. **Formation, Depth, Gravity:** Hockleyensis, section of Jackson series, 1920 ft, gas. **Productive Area:** 850 acres. **Development to July 1, 1939:** 35 wells, 20 in gas, 15 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Sylvan Price's Maryland Trust Estate 1-C, abnd 3514 ft, May 10, 1937. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Magnolia Petroleum Co., O. W. Killam, United Producing Co., Sylvan Price, Henne & Winch.

MIRANDO VALLEY

Sections 116, 182, 76, 251, 10, 307, 114, 112, 113, 253, 18, 240, 613, 11, 9, 125, 307, 249, 126, 836 and part of Albercas Grant. **Means of Discovery:** Unknown, possible geological information and surface indications. **Discovery Data:** Mirando Oil Co.'s Hinnant 3, April 17, 1921, 40 bbls 21-gr oil, 1423 ft, sand 1416-23 ft, elev. 707 ft. **Structure:** Sand lensing situation. **Elevation:** 700 ft. **Formation, Depth, Gravity:** Hockleyensis section of Jackson series, 1425 ft 21 gr; Mirando Middle Jackson, 1800-1900 ft, 21 gr. **Productive Area:** 750 acres, 520 oil, 300 gas, 230 undeveloped. **Development to July 1, 1939:** 166 wells, 65 oil, 21 gas, 80 failures. **Expected Ultimate Recovery:** 2,756,000 bbls. **Produced to July 1, 1939:** 797,347 bbls. **Remaining Reserve:** 1,958,653 bbls. **Deepest Hole:** O. W. Killam's R. Hinnant 4, abnd 2946 ft. **Development and Producing Methods:** 10-in 60 ft, 7-in atop sand; some wells flowing, others jetting, some pumping. Older wells making considerable water. **Outlets:** Texapata Refining Co., Magnolia Petroleum Co. **Rigs Running July 1, 1939:** 3. **Principal Leaseholders:** Buffalo Oil Co. et al, Cartter & Rubsamen, interstate Minerals, Inc., Kirkwood & Morgan, Magnolia Petroleum Co., Shield Oil Co. et al, O. W. Killam.

PAPPAS*

One mile se Zapata, extreme sw end of Porciones 33 and 34. **Means of Discovery:** Surface and subsurface information. **Development:** John Pappas' Cuellar 1, June 21, 1929, as a small gasser at 1408 ft, possibly in the Cook Mountain. Several other wells drilled in area but none developed production.

VILLA‡

Villa Grant and several sections n and ne, ne portion of county. **Means of Discovery:** Geological information and trend play. **Discovery Data:** Winch & Billings' Benavides 1, Oct. 24, 1932, 15,000,000 cu ft gas, 1673 ft, 375 lbs rock pressure, sand 1657-64 ft, elev 672 ft. **Structure:** Sand lensing situation, shore-line structure like remainder of Mirando district. **Elevation:** 670 ft. **Formation, Depth, Gravity:** McElroy zone of Jackson, 1675 ft, gas. **Productive Area:** 200 acres. **Development to July 1, 1939:** 3 gas, 4 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Test to 3000 ft, apparently in Cook Mountain. **Outlet:** United Gas System. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** United Producing Co., Winch & Billings, J. J. O'Hern, French Oil Corp., Magnolia Petroleum Co., The Texas Co., Mid-Continent Petroleum Corp.

WRAY‡

Centering around share 9, Fullerton subd, Borrego Gr in northwestern portion of county. **Means of Discovery:** Geological information. **Discovery Data:** A. H. Wray's Gopher 1, June 22, 1933, 5,000,000 cu ft gas, 348-70 ft in Jackson, elev. 498 ft; 150 lbs rock pressure. **Structure:** Sand lens. **Elevation:** 500 ft. **Formation, Depth, Gravity:** Jackson, 370 ft, gas. **Productive Area:** 120 acres. **Development to July 1, 1939:** 3 gas, 6 failures. **Expected Ultimate Recovery:** Gas field. **Deepest Hole:** Arthur Wray's Gopher 5, abnd Jan. 7, 1935, 2003 ft. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Harry Fansler, O. W. Killam, Arthur Wray.

ZAVALA COUNTY

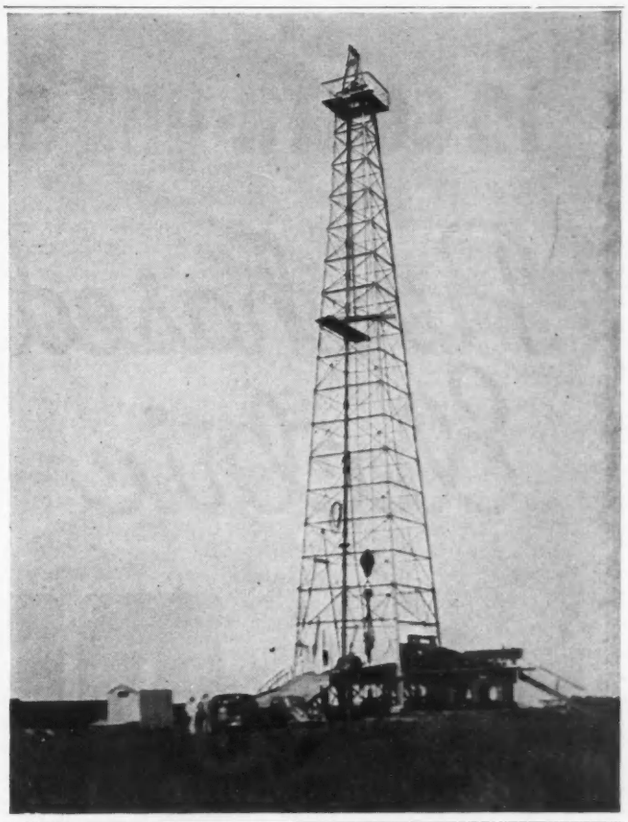
BATESVILLE

6 mi ne Batesville, Section 11, Blk A-2, G.W.&T. Sur. **Means of Discovery:** Geological data. **Discovery Data:** Wilcox Oil & Gas Co.'s Gilliam 1, May 29, 1937, 210 bbls per hour through 6-in flow line. Crevice in Georgetown, 3941-47 ft. **Structure:** Crevice. **Elevation:** 800 ft. **Formation, Depth, Gravity:** Crevice, production apparently from Edwards lime, 3950 ft, 16.6 gr. **Productive Area:** 5 acres. **Development to July 1, 1939:** 1 oil, 3 failures. **Expected Ultimate Recovery:** 10,022 bbls. **Produced to Jan. 1, 1939:** 10,022 bbls, depleted. **Deepest Hole:** H. F. Wilcox's Gilliam 4, abnd March 23, 1939, 4036 ft in Edwards lime topped 4014 ft. **Rigs Running July 1, 1939:** 1. **Principal Leaseholders:** Wilcox Oil & Gas Co.

COW HILL‡

10 mi ne LaPryor, centering around A. Quirre, Emily King and George Boss sur. **Means of Discovery:** Surface indications. **Discovery Data:** Anglin Oil & Gas Co.'s Pryor, completed as gas well in 1928 at approximately 800 ft. **Structure:** Faulted with some sand lensing. **Elevation:** 800 ft. **Formation, Depth, Gravity:** Escondido sands, 800 ft, gas; 1200 ft, 20 gr oil. **Productive Area:** 200 acres. **Extent of Development to July 1, 1939:** 18 wells, 1 oil, 7 gas, 10 failures. **Deepest Test:** Sun Oil Co.'s Prior-West 2, abnd 3340 ft. **Expected Ultimate Recovery:** Gas field. **Outlet:** Texas Gas Utilities Co. **Rigs Running July 1, 1939:** None. **Principal Leaseholders:** Texas Gas Utilities Co., Anglin Oil & Gas Co.

* Prospect. ‡ Gas field.



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Corpus Christi Becomes Important Oil Port

By CHARLES ROSTER

THE rise of Corpus Christi's modern harbor to an oil port of major importance has gone hand in hand with the development of South Texas' oil and gas resources. When the port was opened late in 1926, officials did not then, nor in the years preceding its establishment, give more than cursory consideration to petroleum's influence upon its growth, unless one assumes that the general term, "products of the soil" included mineral resources buried deep below the surface, as well as cotton, vegetables, grains and live stock grown or bred upon the upper crust. To provide a "safe and adequate harbor" through which the diversified products of an agricultural empire might flow to the markets of the world was the crux of the campaign to build the Port of Corpus Christi. Much was said of the hundreds of thousands of bales of cotton grown in the preferential territory. Great stress was laid upon the tremendous quantities of winter vegetables the area produced. Wheat, if the dream had come to realization, would have flowed from the Texas Panhandle, and from the plains of the middle-west into huge grain elevators prominent grain brokers had pledged themselves to build. But little, as the writer recalls, was said about oil.

The port has fulfilled its promise to the cotton grower. Corpus Christi, from the standpoint of tonnage handled, is now the fourth cotton harbor of the nation, being topped only by New Orleans, Houston and Galveston. It has provided a water outlet for a substantial amount of vegetables, some 600 to 750 carloads of Gulf Bend onions being shipped to Eastern Coastwise markets each spring. Some 70,000 square miles of South and Southwest Texas have been given the benefits of low-cost water transportation. In these, and other ways, the port has served its function, and it is unquestionably true that the facility would have shown a steady growth, although not spectacular, without the coming of petroleum.

It was not until 1929 that oil began to splash upon the local picture. In that year, the Corpus Christi division of the waterway, which include Harbor Island and Ingleside, handled the trivial amount of 20,720 barrels of oil. The Navigation District did not possess an oil dock worthy of the name. A 4-inch line connected the District's No. 7 dock to a modest-sized tank farm located southwest of the main basin, and this was utilized more for bunkering than for handling commercial oil cargoes. Cotton interests located nearby regarded the use of the dock as contributing to the fire hazard, and to relieve the situation the commission constructed a small two-cluster dock in the west end of the main basin. Corpus Christi's development as a major oil port then began.

The next important event was the discovery of oil in the Saxet field, located five miles west of the city. This was in 1930. Seven years before the first commercial gas well (the city's original source of supply) had been completed on the John Dunn tract, on the south shore of Nueces Bay. The famous White Point blowout had occurred in 1914, yet despite the evidence that natural gas apparently existed on either shore of the bay the artificial product continued in general use. The completion of the Dunn gasser, drilled by W. L. Pearson, intensified the search for oil in this vicinity, the discovery of the Saxet field being the first major result. In the meantime, development farther west of Corpus Christi, particularly in Duval County, had been going ahead steadily, and the close of 1930 found that oil shipments at Corpus Christi proper had grown to 895,371 barrels.

There are three ports in this immediate vicinity, namely, Corpus Christi, Harbor Island and Ingleside. Prior to two years ago they were regarded as separate projects, but today, for purposes of administration, they have been combined under one general head—the Port

Aransas-Corpus Christi Waterway. Harbor Island for 10 years has been an important oil shipping point, although all the facilities there are privately owned and operated. The same holds true of Ingleside, location of a Humble refinery. These two points, neither of which perform a public port's function, have handled the major portion of the oil passing through the local waterway, although Corpus Christi at this time is handling a greater volume than Harbor Island.

Since January 1, to August 31, 1939, inclusive, the port's three divisions have handled in crude and refined products a grand total of 460,641,059 barrels. Of this amount Corpus Christi proper has handled 132,980,117 barrels; Harbor Island 293,679,556 barrels, and Ingleside 33,811,386 barrels. That is a considerable volume of oil, and while the figures seem to favor the Harbor Island division, Corpus Christi proper since January, 1938, has been in the lead. In that year, Corpus Christi handled 40,820,344 barrels of all classifications; Harbor Island 34,767,611 barrels, and Ingleside, 5,840,635 barrels, practically all of which was refined. Through the first eight months of 1939 Corpus Christi led the Harbor Island division by approximately 11,000,000 barrels.

Discovery of the Corpus Christi oil field, the east boundary of which extends to the city limits, in late 1935, stimulated the rapid rise of Corpus Christi as an oil port. Shipments that year doubled the preceding one. The strike resulted in an intensive Nueces County drilling campaign, the details of which are more familiar to the oil industry than they are to the writer. Shipments through this point totaled 15,757,704 barrels the following year, and have been increasing rapidly ever since, despite the allocation program. The waterway's combined business in 1936 totaled 44,011,501 barrels. And 1937 saw the figure raised to 69,219,355 barrels, while in 1938, a grand total of 81,428,590 barrels of crude and refined products passed over all docks, both public and private. It is difficult at this time to anticipate 1939's figure, which, as of August 31, stood at 58,150,647 barrels. The August shutdown unquestionably will have a bearing on the year's business, yet demands created by Europe's war-time needs may offset the loss.

The Navigation District now operates four public oil docks, each of which has a loading capacity of 10,000 barrels per hour. Two of the docks are located on the north shore of the main turning basin, and two in the Avery Point basin. On the industrial canal, a 7500-foot long cut, with water of full project depth, and which connects the two basins, are two privately owned docks, one operated by General American Tank Storage Terminals, the other by the Barnsdall Oil Company, the other major company engaged in refining operations in this vicinity.

The volume of refined products handled in late years very accurately reflects the growth of the industry in the Corpus Christi area. Corpus Christi and Ingleside, two of the Port's divisions handling refined oils, have shipped 34,174,026 barrels since 1929, inclusive. A substantial amount of this total was incoming cargo consigned to bulk stations maintained here by major companies. Of the 10-year aggregate 12,042,824 barrels have been shipped over the Corpus Christi docks, about 80 percent of the local total having been handled since

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Coastwise steamship services are dependable: foreign service is splendid.

A permanent Oil and Gas Committee of this organization stands ready at all times to help you with your problems.

THE CHAMBER OF COMMERCE

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Corpus Christi

THE OIL CAPITAL
OF SOUTH TEXAS

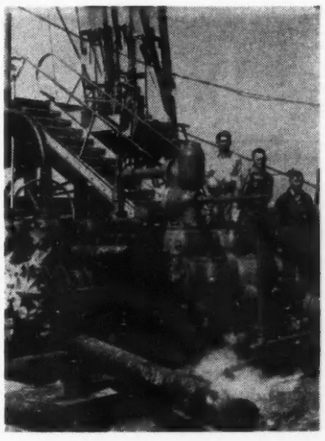
January, 1937. Last year's high figure of 4,041,348 barrels will be greatly exceeded by 1939's total, as Navigation Commission statistics show that 3,979,813 barrels were dispatched or received the first eight months of this year.

Ten refining, topping and absorption plants are operating in the immediate Corpus Christi area at this time. The Humble plant at Ingleside, a few miles from Corpus Christi, is the largest of the group, shipments from that point this year (January to August, inclusive) totaling 4,579,148 barrels. That figure does not tell the full story of Humble's operations, as it does not include gallonage supplied to the area's wholesale and retail outlets, but only waterborne shipments. The Barnsdall Oil Company's plant, occupying a 130-acre site on the Industrial Canal, east of the Southern Alkali Corporation's large plant, is the other major concern operating here on a large scale. Recently Barnsdall officials announced that the capacity of the local operation would be greatly increased through the removal of some units from Oklahoma to this point.

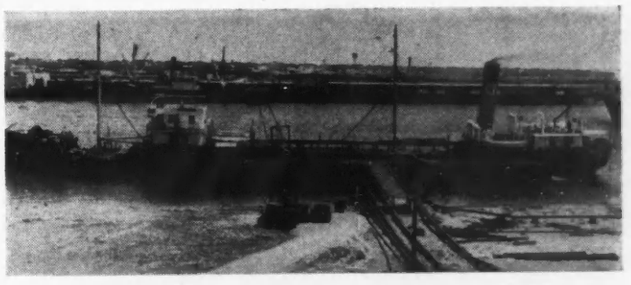
The south shore of the two-mile long industrial canal and the available north bank of the main turning basin and property adjacent thereto, have been utilized in great degree by oil interests.

Much of the property is under lease to, or owned by, storage terminal operators, the combined capacity of all plants located at Corpus Christi proper being in the neighborhood of 8,500,000 barrels. The enlargement of the port's main basin to a length of 5500 feet (to be done in the near future as the money has been made available) will make available an additional 120 acres of basin-side property. The Navigation District controls 3015 acres of property, extending west from the port's entrance to include the mouth of the Nueces River. A large portion of the land is designated as "submerged" but the greater part of it is adapted to navigation development. Plans have been prepared for the extension of the port's services to the Tule Lake area, approximately four miles west of Avery Point. The extension has been approved by Federal engineers, the only conditions being that there be sufficient demand for the property to justify the expense of development, and that it be made available at a cost consistent with its real value.

SOUTH TEXAS *Makes* A LOT OF OIL



and It's Shipped Through the PORT of CORPUS CHRISTI



Twenty-two South Texas counties, all within a few hours' ride of Corpus Christi, produce oil in commercial quantities. They pour (in round numbers) 280,000 barrels of oil a day into the 26 pipe lines bringing oil to tide water here. Yes! South Texas does "make" a lot of oil even under proration.

And South Texas ships its oil—both crude and refined—through this modern waterway. Last fiscal year 85,614,207 barrels passed over the public and private docks. And the movement will remain on the upgrade—first, because new fields are being discovered constantly, and second, South Texas crude possesses qualities demanded by both the domestic and export markets.

If you're engaged in production, furnishing supplies to the industry, in terminal operation, etc., you should investigate Corpus Christi.

NUECES COUNTY NAVIGATION COMMISSION

The PORT of CORPUS CHRISTI

OIL PORT FOR THE SOUTH TEXAS EMPIRE

Edited by
WM. V. GROSS, Associate Editor

Mexico Exports Down

Loss of German trade is blow to Mexican export business . . . United States Mexico's best customer

Mexican petroleum exports during the 18 months following the taking over of foreign properties, from March 19, 1938, day following the expropriation, through September 19 of this year, totaled 13,526,000 barrels of crude and refined petroleum products.

A marked drop in export volume was registered for the first 20 days of September as compared with the similar period during August. This, an effect of the war in Europe by reason of interruption of international trade, was caused chiefly through cessation of shipments to Germany, heaviest taker of Mexican petroleum exports since expropriation.

Total Mexican exports during the first 20 days of September amounted to 657,000 barrels of crude. No refined products moved out during that time. This compares with exports in August of 1,257,000 barrels of crude, 10,375 metric tons of asphalt, 247,600 barrels of gasoline, 394,000 barrels of gas oil, 10,000 barrels of gas oil for ship's bunkers, and 80,200 barrels of fuel oil for ship's bunkers.

Two Cargoes to Italy

Only two cargoes of oil for Europe, both for Italy, were cleared during the first 20 days of September; 1 vessel sailed with crude for Uruguay, 6 with oil for United States ports. These carried a total of 633,500 barrels of crude. Oil for ship's bunkers brought the total for the period up to 657,000 barrels.

Of the 6 cargoes for United States ports, 4 went to Eastern States Petroleum Company refinery, Houston, for processing and re-shipment. These included the Myriam, sailing September 4, with 79,000 barrels; the Aztec, sailing September 5, with 35,000 barrels; the Pericles, sailing September 11, with 91,000 barrels; the Myriam, sailing September 16, with 78,500 barrels, for a total of 283,500 barrels.

Other shipments to the United States were by the Marathon, sailing September 14, with 67,000 barrels for the account of Cities Service Oil Company's refinery at Warner, New Jersey; and the Mirlo, sailing September 17, with 69,000 barrels of Mexican Gulf Oil Company stocks.

This shows a total of 419,500 barrels of the total exports of 633,000 barrels moved to the United States during the 20 days.

Oil-Rayon Deal

A cargo of 83,000 barrels moved out on the Athos, sailing September 20, to the Uruguayan government oil monopoly at Montevideo.

The 2 cargoes for Italy, totaling 131,000 barrels, moved out by the Portofino, sailing September 4, with 64,000 barrels, and the Anteo, sailing September 11, with 67,000 barrels.

Through negotiations with Italy for additional supply of rayon yarn in exchange for oil, conducted in September, indications are that Mexican petroleum will move in heavier volume to Italy from now on as long as no disruption of ocean commerce comes about. This makes the third major barter deal with Italy. Reliable reports are that Mexico has asked for 600,000 kilograms of rayon yarn with delivery as quickly as possible in an effort to store up stocks of that material against possible shortage that might develop by reason of the war. This is in addition to the deal of April 18 calling for delivery of 360,000 tons of oil to Italy in exchange for 3,600,000 kilograms of rayon yarn. Movement under terms of the April 18 agreement started in June.

May Increase Shipments

Fuel oil from Mexico for Italy has been destined for the Italian navy, according to reports. Indications are that an effort will be made to step up the movement under terms of the new agreement by an additional 250,000 barrels a month.

Reports are also prevalent here that Eastern States takings may be increased gradually to about 25,000 barrels a day as compared with 15,000 barrels now.

Plans for exportation of crude and refined products to Brazil apparently are not working out as rapidly as predicted following announcement here a few weeks ago of the closing of a deal with Brazilian interests. These latter, it was announced, planned to construct a large refinery in Rio de Janeiro for processing Mexican crude. Contracts for large takings of crude and refined products from Mexico were announced. More recent announcement from Brazil indicates delay in plans for the refinery. Brazilian commission went to the United States to buy equipment but made no decision, it was reported. The export manager of Distribuidora de Petroleos Mexicanos, sales agency of the government oil administration, recently left for South America to look into market conditions there.

Germany Bought Most

Since expropriation of the industry by the government, Germany has been the chief purchaser, through barter, of Mexican petroleum. Of the 12,869,000 barrels of crude exported by Mexico from March 18, 1938, through August, 1939, a total of 3,942,000 barrels went to Germany. Volume of other exports to Germany during the period in question was as follows: fuel oil, 2,119,000 barrels; gas oil, 3,756,000 barrels; gasoline, 1,849,000 barrels; kerosene, 48,000 barrels; asphalt 17,300 barrels.

Shipments to Germany represented about 49 percent of the total volume of exports. Italy was the next best customer with a total of about 15 percent of the total exports. Nearly 21 percent of the total of exports went to United States ports, but about 16.50 percent of such shipments were in bond for re-export.

The total value of all exports from March 18, 1938, through August of this year was in excess of $22,000,000. Of that amount, exports handled by Davis & Company, New York, represented more than 50 percent, or a total of $11,326,000.

Mexican tetraethyl plant to begin operations soon

Laboratory experiments, according to a government announcement, indicate Mexico's new experimental tetraethyl plant for raising the octane rating of commercial gasoline may be able to manufacture the product for less money than it can be imported from the United States. The plant is expected to be put into operation soon.

Mexico has suffered for more than a year from lack of high-octane gasoline in quantities sufficient for domestic consumption.

MEN IN THE INDUSTRY'S NEWS

O. R. TEAGUE, connected with Hogg Brothers at West Columbia, and father of J. U. Teague, Gulf Coast Division petroleum engineer for Humble Oil & Refining Company, suffered a broken collar bone and fractured shoulder during the past week when he fell from a horse as the result of a broken girth.

L. L. ANDERSON, Standard Oil Company of New Jersey, New York, recently visited Mexico City and Cuernavaca.

MANUEL SANTILLAN, geologist who at one time took an active part in the Mexican government's oil activities, has been appointed under-secretary of communications. Santillan recently was under-secretary of national economy for Mexico.

E. J. RAISCH, of Austin, Texas, executive secretary for the National Oil Scouts Association was in Houston last week to direct the scout's membership drive.

B. ORCHARD LISLE, consulting petroleum technologist and publicist, has announced establishment of offices at 1472 Broadway, New York.

GILBERT R. KENNEDY, scout for Magnolia Petroleum Company at Kilgore, Texas, has resigned to enter the oil business for himself. His resignation makes vacant the post of secretary-treasurer for the National Oil Scouts Association of America.

DELBERT LEGGETT, head of the land department in the West Texas district for Stanolind Oil & Gas Company at Midland, has been transferred to Fort Worth to become assistant division land man. J. G. McMillan, assistant to Leggett for several years, assumes charge of the Midland branch, with W. H. Ground, formerly of Fort Worth, as an assistant.

J. W. HERBERT, president of Herbert Oil Company, has returned to Fort Worth headquarters after spending the greater portion of the summer in the East.

CHARLES BAIRLESS, formerly with Mene Grande Oil Company in Oficina, Venezuela, sailed by plane from Miami recently for Port-o-Spain, Trinidad, where he will become a driller for Trinidad Petroleum Development Company.

E. L. CARTER, tool pusher for Mene Grande Oil Company in the Santa Ana district of Venezuela, recently sailed from New York to return to Venezuela. He will be located at Oficina, headquarters of the district.

PAUL HESSE, warehouseman with Lago Petroleum Company at La Salina, Maracaibo lake shore, Venezuela, was a recent visitor in Houston.

CAPTAIN T. RIEBER, chairman of the board of The Texas Corporation, New York, probably will head a group of executives soon on a trip to Colombia to celebrate inaugural ceremonies of the South American Gulf Pipe Line Company's new line from the Barco concession to Covenas.

RAYMOND B. KELLY, manager of the Fort Worth division office of Pure Oil Company since August, 1935, has been transferred to Olney to assume charge of the company's drilling and production operations in Illinois. He will be succeeded at Fort Worth by R. W. McIlvain, Jr., who has been head of the company's Illinois activities since the advent of deep production. The latter is a native of Texas, and previous to his service in Illinois was connected with the Fort Worth and later the Houston division. Kelly was presented with a watch by department heads and employees of the Fort Worth office at a farewell dinner given in his honor October 5.

HOWARD JOHNSON, chief scout for The Texas Company, Tulsa, is visiting the company activities in the Illinois Basin area.

HOWARD S. BRYANT has been made division geologist for Skelly Oil Company with headquarters at Tulsa. Bryant was formerly district geologist for the company at Wichita.

THOMAS HUGHES, foreman for The Texas Company at Lockport, Illinois, breathed a sigh of relief when he stepped from a United Air Lines plane at the Chicago Municipal Airport. Hughes was vacationing in Europe when the war broke out, and promptly joined the mad scramble to obtain passage back to the United States. His efforts to get aboard the Queen Mary and the other liners leaving Europe right after the start of the war met only with rebuffs, and he was held in England until he finally obtained space on the second trip of the Manhattan. Following his arrival in New York on the Manhattan, Hughes caught the first available plane for Chicago so as to get his feet back on Illinois soil as quickly as possible.

THOMAS HUGHES

C. L. HEROLD, Shell Oil Company, Houston, made a recent visit to South Louisiana inspecting several of Shell's wildcat and field drilling operations. Herold is district geologist for the firm in this territory.

DR. R. B. RUTLEDGE, staff geologist for Skelly Oil Company, Tulsa, was promoted to division geologist, and will have supervision over all geophysical activities of the company.

Petroleum Electric Power men to meet in Houston

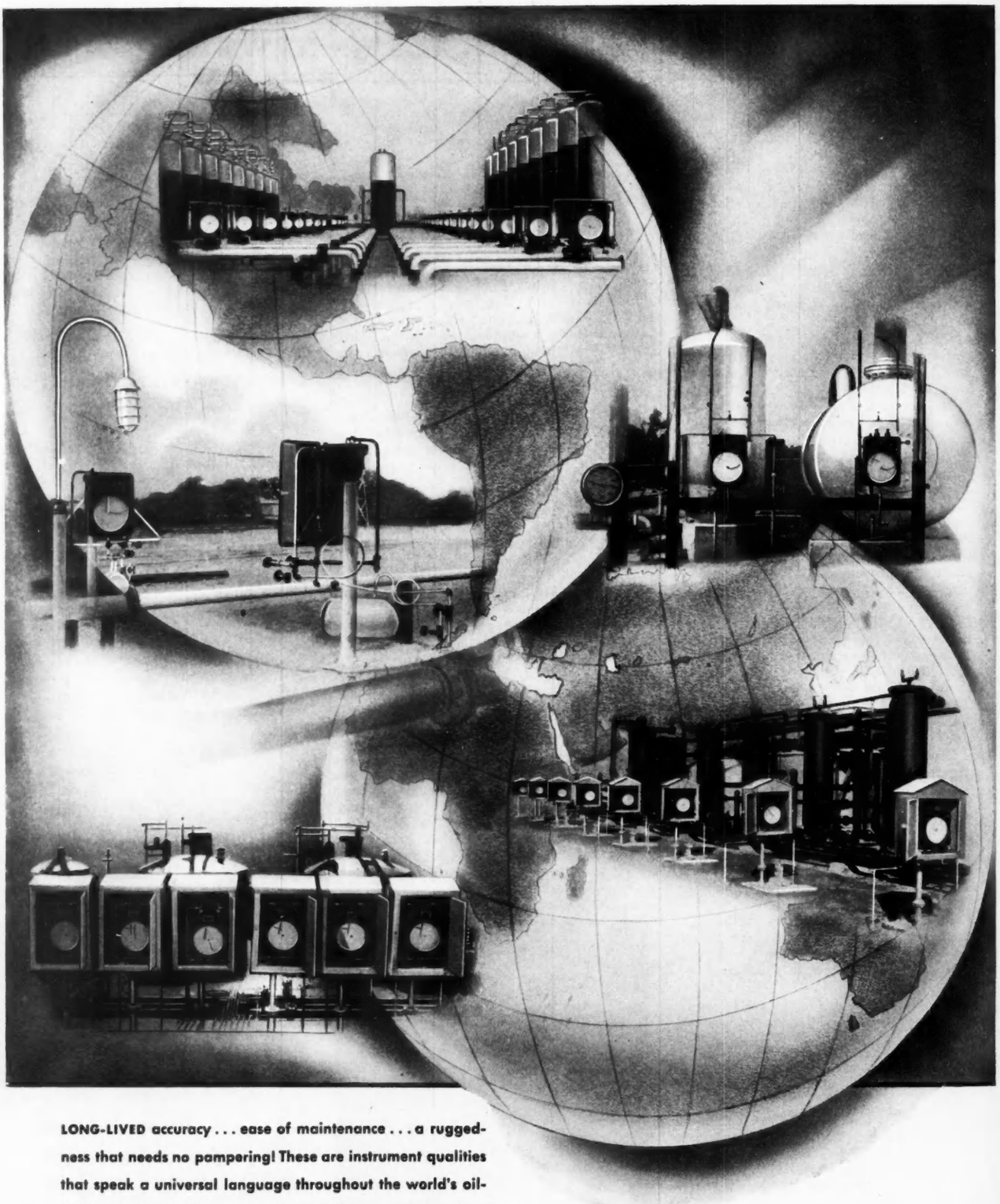
Petroleum Electric Power Association will hold its Eleventh Annual Conference on Thursday and Friday, December 14 and 15, at the Texas State Hotel in Houston, Texas. Many prominent men from the oil and electric industries have accepted assignments on the program for the two-day session.

Eleven A. P. I. safety certificates awarded

Eleven new million-hour safety certificates have been presented to plants and departments of United States oil companies by Axtell J. Byles, president, American Petroleum Institute—bringing to 64 the total of million-hour awards given since the formal recognition of these safety records was begun in November 1938. The awards were announced by H. N. Blakeslee, American Petroleum Institute, secretary of the Institute's Accident - Prevention Awards Committee; Mr. Byles is chairman of the committee.

The million-hour award certificates are given to oil-company plants, departments, or sub-departments for accident-prevention records of 1,000,000 or more man-hours with no disabling injuries. Many of the latest awards were made shortly after completion of the required million hours, although no accident had occurred to terminate the record period. Longest safety record in this group of awards was set by employees of the Process Division of the Baton Rouge Refinery of Standard Oil Company of Louisiana, who worked from March 31, 1938, to June 30, 1939 without a disabling injury, a record of 3,416,443 safe hours.

Other recipients of the most recent awards are: Research and Development Department, The Atlantic Refining Company, Philadelphia; Petrolia Plant, Lone Star Gas Company, Dallas, Texas; Marketing Department, Standard Oil Company (Indiana), Chicago; Bayway Refinery, Mechanical Division Bayway Refinery, and Process Division Bayonne Refinery—all Standard Oil Company of New Jersey, New York; Baton Rouge Refinery, Standard Oil Company of Louisiana, Baton Rouge, Louisiana, and each of the following departments of the Baton Rouge Refinery — Paraffin and Lubricating Division, Mason Division, Process Division and Technical Division.



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THE WEEK'S NEWS SUMMARIZED

Markets Strong

After having been in a sharp upward movement for six weeks, under the influence of shutdowns and war, the oil industry markets continue to advance.

To the gains in product prices were added last week advances of 1 to 12 cents a barrel in crude prices, affecting Southwest Texas and Texas-Louisiana Gulf Coast fields.

Favored in the increases were crudes below 26 gravity, although all grades were raised in the Refugio and Mirando districts.

The higher prices reflected increased demand for the crudes involved, those oils being particularly desirable for their yields of bunker oil, Diesel oil, lubricants, and aviation gasoline, the products that have been making the most noteworthy market gains lately.

The market for automotive gasoline has failed to keep abreast of the general market, although some additional improvement has occurred.

The relatively poor showing by regular gasoline probably has been caused by the failure to hold stocks down properly. Although the war may help to liquidate unneeded stocks, the inventory remains about 10,000,000 barrels larger than necessary for normal business. In the final week of September, when a withdrawal of gasoline from storage would have been normal, the stocks were increased 148,000 barrels.

Crude Stocks

By now it has been fairly well established that very little if any excess crude oil remains in storage. For the generally strong crude markets and the scattered increases in postings in the past several weeks have reflected firm demand for practically all available supplies.

The six state shutdowns in the latter half of August left various companies actually short of certain grades of crude, and those companies currently are engaged in building such inventories back up to their normal operating requirements.

The total crude stocks in the United States decreased 205,000 barrels more in the week ended September 23, having reached another new 17½ year low of 232,811,000 barrels.

The crude oil inventory is about 35,000,000 barrels smaller now than at the beginning of the Mid-Continent shutdowns.

TNEC Investigation

Two weeks of investigation of the oil industry by the Temporary National Economic Committee have developed integration, proration and transportation as the major factors to which members of the committee are giving their attention.

With the testimony of every witness appearing before the committee touching upon one or more of these phases, the line of questioning adopted by committee members and counsel repeatedly led back to the questions whether proration has adversely affected the independent producer and refiner; whether integration, particularly involving pipe lines, has laid insurmountable barriers against the non-integrated operator; and whether the operator who has not access to pipe lines is at a competitive disadvantage because of the enforced use of rail transportation at much higher rates.

Just what the committee can do if an affirmative answer is found to these questions has not been developed. Members of the committee admit that the federal government has no authority over proration laws of the producing states, and that the question of transportation rates is in the hands of the Interstate Commerce Commission.

The only point on which the committee could act would be integration, and during the course of the week's hearings, Senator O'Mahoney (Dem., Wyo.), chairman, pointed out that the question of pipe line divorce is now pending before a House committee and explained that "this committee is not so much concerned with questions of kind but, rather, with the effect upon competition and on employment of the industrial system as represented in the petroleum industry."

It was also suggested during the week that much argument is being given to support Senator O'Mahoney's pending bill for the federal licensing of corporations doing an interstate business, which he has characterized as "a national rule which would permit the independent operator to compete."

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Oil at the Capitols

Temporary National Economic Committee Monopoly investigation strikes first pay dirt in charge oil companies are in collusion with railroads

Serious charges that oil companies and railroads had conspired to control transportation to the detriment of independent operators were pending before the Temporary National Economic Committee as it brought to a close its second week of investigation of alleged monopoly in the oil industry.

The first definite indication that oil companies had engaged in practices violative of the anti-trust laws, were the charges of collusion between the companies and the carriers filed Thursday by Eugene L. Orvis, traffic consultant and lawyer of Jersey City, New Jersey.

Appearing before the committee with a brief case bulging with what he said were copies of correspondence between company executives and between railroad officials and oil companies, Orvis read to the group letters which he charged showed how the companies had negotiated with the railroads for "deals" which would result in modification of freight rates in which they were chiefly interested.

Small enterprise in the oil industry is rapidly being forced to abandon operations or ally itself with one or another of the organizations composing the integrated group, the committee was told at the opening of its second week of hearings by John E. Shatford of El Dorado, Ark., former refiner and member of the NRA code authority, now engaged in the leasing of tank cars to refiners.

"Subversive" use of their powers by administrative bodies and high railroad rates, together with operation of conservation laws on the price-maintenance principle, were held by Shatford to be the underlying causes of the trend from the independent to integrated type of operation in the oil industry.

"One significant fact which stands out so clearly that it cannot be overlook, is that the one type is slowly superseding the other as an indirect result of activities of administrative agencies of law more than through the operation of what are commonly termed natural economic forces," he declared. "Ample evidence supports the view that if these activities cease the present trend of competition will reverse its direction. The belief is quite widely held that in these changed circumstances small enterprise will be able to compete."

Shatford's views were discussed at length in a brief which he filed with the committee and on the basis of which he was interrogated by committee members and counsel.

In his brief, he held that the inequalities between the independent and integrated interests lie in the fields of production and transportation.

The fully integrated company, he explained, is primarily concerned with costs and its interest extends to prices "only when the time has come to collect its costs plus a profit for its business by means of sales of products to consumers."

"From an income standpoint the need has been apparent to these companies for many years for some instrumentality to provide the basis for a stable relationship of prices at every point, some device which, on a general average, would indicate and tend to maintain a suitable and satisfactory level of consumer price supported by intermediate levels in production and refining constituting the desired relationship from top to bottom," he said.

"The integrated company's secondary interest in intermediate prices is matched by the small man's vital concern that market prices shall be compensatory at the point of receiving his income, whether it be at the well, at the refinery, or in the dealer's or consumer's tanks. This difference of interest in prices constitutes a vital distinction between the two types."

Integration has brought about a divergence of attitude as to policies, Shatford continued, and, "so far as the major companies are concerned, no policy is tolerable which fails to view the entire operating cycle as a single unit.

"They are concerned with operations as a whole," he explained, "and in their attempts to formulate the industry's policy in every important particular they uniformly are indifferent to the situation of the small operator in so far as his welfare depends upon intermediate factors of supply and demand. Whether or not those who formulate major company policies feel that the small man cannot survive, it is unfortunate that in purporting to represent the whole industry to legislative bodies and to the public, the adverse effect which certain integrated company policies may have upon the welfare of the non-integrated operator is neither considered nor admitted."

Shatford asserted that although the great burden of thought in seeking production control laws was to achieve stability of supply and price, "legal restraints quickly made it necessary to emphasize conservation."

However, he said in response to a question by Hugh Cox of the Department of Justice, who is conducting the examination, "the problem is not one of conspiracy and collusion" but the "destruction of competition is the inevitable effect of certain measures seeking conservation."

"It was necessary, at the outset, to introduce price maintenance and other economic objectives under the label of conservation," he stated in his brief. "Early statutes were outright physical waste prohibitions and the customary method was to extend indefinitely the definitions of waste, out of the field of public interest into the field of private economic benefit. And so waste came to have so many phases and definitions that today it is easily possible for an experienced commission limited strictly to physical waste prohibitions to exert full economic control over the production of oil from a pool or from a state so as to avoid competitive drilling; small ownerships of leases and royalties; adjust up or down to destroy values in leaseholds and royalties; create or destroy supplies of oil for local industry; enforce partnership operations while naming which partner shall control; raise or lower production quotas and well allowables or withold the right entirely to produce and to influence, up or down, the market price of oil."

Thus, he argued, conservation has attained neither of its objectives of prevention of waste and to see that each owner in a common pool gets his share of oil and gas.

"Conservation is freezing the independents out of production and refining," he told Cox.

"It may be stated with considerable justification that the oil industry is now in the hands of agencies of control which make no responsible effort to correct collateral inequalities of vital import which their acts create," he charged. "Increasingly they are destroying free markets, small ownerships and the equality of opportunity which once characterized this industry. All too often their activities have been accomplished with an utter disregard for sound administrative practice. No more conclusive evidence of this fact can be found than the case of the recent shutdown orders issued by state authorities in practically all of the principal producing states. The question of whether or not there was legal authority for the act was quickly answered by trumped-up emergency orders in which agencies found that physical waste existed in such a degree that it became necessary to shut down all flush oil wells within the states in order to investigate the circumstances of production and issue corrective orders."

There is nothing to fear from integration except the "repercussions of fear of competition and the resulting sense of insecurity and instability of markets" by the integrated companies, Shatford told the committee, pointing out that the major companies now seek to protect themselves by attempting to acquire exclusive ownership of newly discovered producing horizons, but adding, in response to Senator O'Mahoney's request for an explanation, that reserves of crude "mean nothing" to a major company unless they can be converted into products and sold, and unless they can be controlled so as to avoid disturbances in the market, such as formerly occurred, and which would make those reserves useless.

"If they own the reserves they certainly can control that factor," Senator O'Mahoney objected.

"That is true," the witness agreed, "and it is in an attempt to protect that ownership against danger from the outside that they have given their support to conservation legislation."

"These limitations upon the opportunity for profit for the small operator are having a very real influence upon

the ownership of reserves of crude oil," he told the committee. "It is not at all unlikely that within comparatively few years these ownerships will be almost totally confined to the larger integrated companies.

"Just as production control strikes at the very root of the growth of small ownerships, so transportation policies are slowly destroying each branch of independent participation in this industry," he added.

The refiner at points of crude production can command neither a supply of raw material in a competitive market nor profitably ship his product to remote markets, he explained.

Getting into the field in which he is most directly interested, the witness charged the law is not being enforced on pipe lines and asserted that rail rates must be reduced to the 1916 scale, which would offer a quick solution of the problem in the southwestern fields. At the 1916 scale, he said in response to questioning, further pipe line building would be discouraged and any loss of revenue which the railroads might experience from the reduction would be more than offset by the constantly increasing volume of traffic.

Under examination by Cox, the witness explained he did not charge that the railroads are consciously reducing rates affecting integrated companies and increasing those affecting independents, but that the effect or their rate changes was to increase the disparity between the two.

Divorce Would Not Help

However, he said, divorce of pipe lines will not remedy the situation, since the independents "are at the wrong end." What the refiner needs is a cheaper route to market, he declared.

The organic structure of the refining industry is shaped in such a manner as to place those who were excluded from the pipe lines completely at the mercy of railroad management, Shatford declared.

"That these small refiners have fared badly is a matter of record which anyone may read and understand. That they have received sympathetic consideration at the hands of the Interstate Commerce Commission will not be claimed by anyone at all conversant with the facts. To make matters worse there are evidences, which may or may not prove to be substantial, that for several years past and at this time, railroad management is carrying on rate-making policies which clearly constitute a preference in behalf of the larger marketing interests in this industry.

"The results flowing from this situation are aggravated by similar abuses which exist principally within the states in the matter of production control.

"In the field of transportation the important relief must be in the form of reduced rail rates. In the division of production it is necessary to eliminate economic controls that have no greater effect than to destroy small enterprise in all divisions of the industry."

Finding in Shatford a witness apparently well informed in the subjects in which they were most interested, members of the committee and its counsel cross-examined him intensively at the Tuesday session on his charges that proration and excessive rail rates worked to the detriment of the small producer and refiner.

With Senator King of Utah, a member of the committee, present for the first time since the opening of the hearings, the group went exhaustively into the conservation problem, Senator King asking the witness what steps he thought could be taken "legally" to prevent the owner of oil land from sinking wells on his own property.

"I refer you to the statutes of the states," Shatford replied. "They have very effective means of preventing drilling.

"You know the 'hot oil' law is predicated on the right of the states to regulate those things," the Senator continued.

"I assume that is so," the witness replied.

"Have you any opinion as to whether waste was the dominating factor in causing the enactment of these state statutes?" Cox inquired.

"I think the generally accepted belief and opinion in the industry is that it was the economic considerations which weighed most heavily," Shatford said.

Asked about the Arkansas law, the witness explained that it was based on conservation grounds and that efforts to secure a market-demand statute had failed. However, he added, when the other states ordered the shutdown as a result of the price cut, Arkansas followed suit, on the ground that there was great waste in production in the state. A refiner, he continued, carried the matter to the courts, but the suit was dismissed when the court ruled it had no authority to go into the motives of the administrative agency.

His assertion as to inability to secure court review precipitated a discussion of legal procedures, during which Cox pointed out that individuals and corporations have difficulty in securing such reviews because of the generally accepted position that the courts are limited in their rights to investigate the activities of administrative agencies, federal or state, leading Senator O'Mahoney to point out that this has become a serious situation, to remedy which legislation has been introduced setting up special courts for that purpose.

Discussing the effects of control orders, Shatford asserted that they work to the disadvantage of the small producer by increasing his capital requirements, reducing his prospects of quick recovery of investment, and reducing the value of leaseholds and properties. The owner of a small property, he said, can in some states be entirely prohibited from any development of his own land.

Further, he added, the small refiner is deprived of a supply of oil which, added to the difficulty of reaching markets, restricts his operations seriously.

However, he commented, "I do not think there is a single state agency that would like to take a small refiner's supply of oil away from him," but that effect is produced and is inevitable under the engineering principles which are applied. "The administration of the law in East Texas has generally been friendly to the small refiners," he told the committee.

Wants Irrelevancies Left Out

At the opening of the session, Chairman O'Mahoney called attention to the fact that the hearings are running behind schedule and asked witnesses not to present irrelevant matters for the committee's attention, repeating his statement at the opening session that a major purpose of the investigation is to determine what steps can be taken to increase employment and encourage industrial recovery.

"While it may be acknowledged that industry as a whole has done a great work and productivity has been greatly increased, or at least the capacity for productivity has been increased," he told the oil men, "nobody can fail to see that despite all this technical improvement we are still concerned with the problem of unemployment and what this committee is trying to do is find some formula to be recommended to Congress for making it easier for all of the people to live in prosperity."

Transportation, with its implied remedy of divorce of pipe lines, continued to preoccupy the minds of some of the committee members, Willis Ballenger, Federal Trade Commission representative, pressing the witness to discuss what would happen if pipe lines were made common carriers in fact and holding to the opinion that the owners of the lines still would have profits with which to fight competition in other branches of the industry.

Shatford consistently held to his stated opinion that if the pipe line rates were put on a reasonable basis, the integrated companies would have less profit to use in that way and that divorce was unnecessary, adding that nothing done with respect to pipe lines would be of aid to the independent refiner since, he pointed out, the lines are not located at points where such a refiner can reach them nor do they go to the points the refiner wants delivery at.

On the other hand, he held, if the railroad rates were reduced, the independent refiner would be able to reach his market on a parity with his integrated competitor.

"Is it your thesis that the producer of oil ought not be permitted to ship by pipe line but must ship by rail because many producers do ship by rail?" Senator King asked.

"No, sir," the witness replied. "We are discussing the difference in cost between the producing fields of the Southwest and markets, for instance, in the Middle West, with the cost of moving refinery products by rail between the same points.

"The rates governing pipe line movement of crude oil have been going continuously down while the rates governing the movement of the refined products by rail have been going steadily up."

"Are you blaming the railroads?" the Senator inquired.

"Absolutely," Shatford retorted. "The railroads have shown no reluctance whatever to reduce the rates on short hauls between the points at which these pipe line companies refine and ultimate destinations."

Possibilities of giving relief to the small refiners were suggested in a "formula" offered by Mr. Berquist of the Department of Justice for consideration by the witness. That formula, designed to make pipe lines common carriers in fact, would require the adoption of reasonable minimum tenders; that ratable takings from all applicants be made effective; that terminal facilities be established by the pipe lines for

receiving and delivering; that rates be reasonable, with no great advantage to the owner-shipper, and that the pipe lines be required to operate independently from other branches and file separate income tax returns, without actual divorce.

"Some of those things are clearly advantageous; some obscure the problem, such as ratable takings," Shatford said.

"Then your position is that nothing can be done to pipe lines which will help—that you have to reduce the rail rates before the small operator will receive any benefit," interjected Cox.

"That is correct," the witness responded.

"Then what, in your opinion, is going to happen to the small independent refiner if the steps you recommend are not taken?" Cox asked.

"I think it inevitable that his recession will continue," Shatford said.

"Suppose additional gasoline pipe lines were built giving him access to the market, assuming it could be done, in the interval between the present time and completion of those pipe lines would it be correct to say that the position of the independent refiner was going to continue to be imperiled?"

"Yes," Shatford said.

"And when the lines were completed, there would be no independent refiners to take care of," the committee counsel insisted.

"I think that would be a fair assumption," the witness said.

As Shatford prepared to leave the stand, Chairman O'Mahoney asked if the elimination of competition was not the result of a combination of integration, proration and high transportation rates. The witness would not admit that integration was particularly important, saying that "if you eliminate the other two the small man will be able to compete."

"These integrated companies control transportation, control the state boards, control production and all other angles," the chairman protested. "Do you contend that the Connally Act puts its stamp of approval on a policy that works against the interests of the people of the states that have adopted regulation?"

"Yes," replied Shatford.

"Is not the cure to be found in a national rule which would permit the independent operator to compete, if it is agreed that competition is advisable?" the Senator suggested. "I think we should outline the boundaries of important governmental regulations."

Commenting upon the testimony following the close of the morning session, Senator O'Mahoney said that his recommendation came down "to my philosophy—national charters for national businesses is the answer to these problems."

Thompson Heard

Protection of the 50,000 pumping wells in Texas is one of the duties of the Texas Railroad Commission and was a major factor in the 15-day shutdown of production ordered following the recent effort to cut crude prices, the committee was told Tuesday afternoon by Col. Ernest O. Thompson.

For more than two hours, Thompson amused and instructed the committee as, abondoning the formal statement he had prepared, he told of the efforts of the railroad commission to develop scientific methods of conservation and the results that have been achieved.

"We have been criticised pretty generally for being too liberal in granting permits for the drilling of wells," he said.

"We spend half of our time in the courts, and we are kicked out in most cases," he commented in outlining the efforts of the commission to enforce the conservation law.

"We are always in the court—we are being entertained in Atlanta today—and we should be, for men who administer other men's property should go very slowly."

Presenting charts showing bottom-hole pressure and production in the East Texas, Yates and Conroe fields, the witness explained that reductions in production rates and, where necessary, shutdowns, built up pressure and will make it possible to take several times as much oil from prorationed fields as they would yield under unrestricted production.

The principles of conservation now have been generally accepted in Texas and the attack, instead of being directed at the law, now is aimed by individual operators at efforts to secure better allowables. The present theory, Thompson said, is "get as much as you can as fast as you can."

Conservation, he continued, has been an aid to keeping the price of gasoline low to the consumer, but has reduced the return to the operators although, in the end, they will take much more out of their wells than if there had been no regulation.

He cited statistics to show the effect of conservation, telling the committee that in 1937 the gross receipts from the sale of crude in Texas were $594,500,000, while in 1938 they were $514,800,000 and so far this year have been $465,600,000. This means, he said, that while 510,000,000 barrels of crude were produced in 1937, the 1939 production has been 480,000,000 barrels.

The number of wells has steadily increased, from 77,000 in 1937 to 85,000 in 1938 and will be 91,000 by the end of this year, while the allowable production per day per well, which was 19.4 barrels in 1937, was reduced to 15 barrels last year and will be 14.4 for 1939.

While the number of wells has been increasing and production declining, the price per barrel has been reduced from $1.16 in 1937 to $1.10 in 1938 and 97 cents this year, Thompson said, and the per-well revenue of $7685 in 1937 dropped to $6029 last year and is $5094 for 1939. This last, he added, with an average well cost of $25,000 and making allowance for interest and other charges, means that the average well pays out in about 15 years.

With much of the testimony of the preceding witness devoted to an attack on the administration of the conservation laws as a price-fixing device, the Texas commissioner was encouraged by Chairman O'Mahoney to give the official view of the situation and, by request, explained the shutdown which followed the effort to cut the crude price.

"We have about 50,000 of our 87,000 wells that are called stripper wells producing less than 5 barrels per day, and we know from experience, records and studies by the federal government that it costs around $1 per barrel to operate those wells," he said.

"If you produce oil at less than the cost of operation—these owners have no reserves in dollars to keep them going—these wells will have to be abandoned and then you would be causing the greatest waste ever known. You must protect the little stripper well. When the price drops so low that the stripper well cannot operate, then you are driving it out, and cutting off forever the oil they produce."

It was, accordingly, for the protection of these wells that the shutdown was ordered, the price reaction being "purely incidental"—the state had had repeated shutdowns before that, Thompson asserted, and will have 11 shutdown days this month. The major purpose, he insisted, was to build up bottom-hole pressure and protect the stripper wells, and he maintained that position even after Cox read excerpts from the letter he wrote Governor O'Daniel of Texas, urging a 30-day shutdown, and the telegram he sent to Governors Horner of Illinois and Long of Louisiana, asking them to attend the meeting of the Interstate Compact Commission, in which he referred to the "unwarranted" price cut.

Thompson Defends Production Strike

Reading from the Act of Congress ratifying the interstate compact, Cox called the commissioner's attention to Article 5, prohibiting the use of the compact to limit production "for purposes of stabilizing or fixing the price" of oil and asked whether the commission meeting called because of the price cut as "a meeting called for purposes which allegedly fell within the purview of the act."

"Yes," Thompson asserted, "insofar as it is a conservation measure."

It was pointed out by Chairman O'Mahoney that there was no hostility on the part of the committee or its counsel over anything the railroad or compact commissions may have done, and he pointed out that he had been a sponsor of the so-called sugar control bill which provided for a fair return to sugar producers, adding "I am not sure it would not be proper to see that there is a proper return to producers of crude oil."

"It appears from your testimony you have seized as an opportunity for conserving oil by shutting down production those periods when prices were low," he said.

"Is it your opinion, as the head of this commission, that government should so interfere with the normal activities of production of petroleum as to control the price of petroleum as well as conserving the field?"

"Of course, as an incident of conservation you do affect price," the witness agreed. "You cannot help it. I should say it strikes me that the regulatory authorities, in holding down people and keeping them from having the full opportunity of doing as they like with their property, have the duty put upon them to see that this restriction does not put them out of business."

Members of the committee found considerable cause for mirth in the commissioner's remarks upon federal interference. He led into them by explaining his reaction to the price-cut announcement, saying that "through the years we have been working off these surplus stocks of oil above ground.

"Then," he added, "when the stocks

were the lowest for 18 years and consumption was at a high level, it did not seem cricket that there should be a cut in the price."

There was no overproduction to justify the cut, he said, adding that the commission always tried to keep the allowable under the recommendations of the Bureau of Mines, adding, in response to a question as to why that was done, that if they were not kept under the estimate of demand it was feared the government would intervene.

Federal Help Not Wanted

"Ickes tried to take the industry over," he complained.

"Why, he could not do it without law," Chairman O'Mahoney said.

"I know, but he almost did," Thompson retorted.

"It is a serious threat to us in Texas, because we fear federal encroachment," he added when the committee laughed. "We are not asking for any further help from the federal government except to be left alone."

If continuance of the Connally Act is contingent upon more federal control, he said, "let the Connally Act go." Anyhow, he added, the act is not now particularly needed. "We have very little hot oil production," he said. "There used to be considerable, because in the application of these laws it takes time to know how to apply them."

In his prepared statement, to which he referred only briefly, Thompson told the committee that drilling operations in Texas today are "intense" and that oil development or production is being carried on in 240 of the 254 counties in the state and resulted in payments to Texas farmers and land owners of $105,000,000 last year for lease rentals, bonuses and oil royalties.

Similar activity is going on in Oklahoma, Illinois and other states, he said, and "has been so intense and so highly competitive that there is some question in my mind whether they will get out of the ground enough money to repay the cost of all the drilling."

By restraining the output of the East Texas field to about 400,000 barrels a day, fluid withdrawn, the state authorities have been able to check, retard and in some instances even build up the bottom-hole pressure in the field, the commissioner stated.

"We have produced the oil slowly in order that the water intrusion acting as nature's natural agency, may fill the void made by the withdrawal of oil through the bore of the wells and thus maintain constant or nearly so the pressure at the bottom of the hole," he explained. "This actually is all there is to this thing called conservation.

Plenty of Oil Found

"The results have been that we now find ourselves with an estimated total discovered reserve of crude petroleum in the amount of 17½ to 22 billion barrels and our only difficulty today is in limiting our production to market demand. Our problem is not one of finding oil."

Drilling technique has kept pace with the advance in discovery, he continued, but, he predicted, "long before our petroleum reserves shall have been exhausted a satisfactory and economical source of energy will have been discovered."

Explaining the operations of the Interstate Oil Compact Commission and the aid given by the Bureau of Mines through its monthly forecasts of demand, Col. Thompson presented figures showing that production in the major states is being maintained at levels slightly below those recommended by the bureau. As a result, he said, "excess stocks have been allowed to be reduced to present economic levels" and waste is being prevented.

"The states have done the job," he asserted. "There is no scarcity of oil and at the moment there is no wasteful overproduction generally. There is an increasing understanding between the oil producing states and the public generally that conservation and proration are for the general good of all the people in that more oil will be recovered in the long run—two or three times as much as was recovered under the other method of wasteful open flow production.

"I believe I am able to report as a result of observation from long close contact as administrator, that there is no crisis in the oil producing industry," he concluded. "The oil producing states are handling their own conservation problems effectively and I believe with increased efficiency in the application of sound and demonstrated engineering principles. There is no wasteful overproduction and I know we can truthfully report, through this committee, to the nation, that the oil producing states are ready and able on call to meet any emergency that might face us, and we could produce all the oil that might be needed in any possible emergency and it can be done without causing physical waste.

"We have had and are having hearty enthusiastic cooperation from the Department of the Interior, through its conservation department; from the Bureau of Mines, through its monthly forecast of market demand, and with the assistance of the Connally Act I see no need for any further federal legislation on conservation affecting the oil-producing business in America.

"Waste is being prevented; recoveries are being increased; and reserves of oil are being built up. These, in short, are the accomplishments of the oil producing states."

Would Protect Land Owner

Protection of the oil land owner against "subversive practices of which at the present time he is undeniably the victim" was urged upon the committee at the Wednesday session by Robert C. Knox, El Dorado, Arkansas, lawyer.

Largely, Knox testified, these practices are involved in the provisions of leases providing for development of the owners' lands.

While, until recent years, there was always a market, at a price, for all the oil that could be produced and leases, accordingly, were comparatively simple instruments, the great discoveries that have been made since 1927 and the tendancy toward proration have made lessees more reluctant to drill wells and has led to the adoption of various lease provisions whereby the lessee can maintain control of the owner's land without engaging in large and not immediately profitable development operations, he explained.

"Since it is evident that on account of an over abundant supply of oil in present producing fields, requiring drastic limitation of the production, and on account of the recent discovery of a large number of structures evidencing the presence of oil and gas, which if opened would but add to the present distress of the producing companies, it is not difficult to believe that, while a landowner still executes an oil and gas lease with the expectation and purpose of assuring reasonably diligent exploration and development of, and production from, his land, the lessee, secretively perhaps, but nonetheless essentially, has exactly opposite expectations and purposes," Knox told the committee.

Not Criticizing Lease Takers

The witness emphasized that he "had no criticism" of anyone engaged in the leasing of land from owners, explaining that he wanted merely to point out the effects of leases made under the new conditions.

Landowners, generally, he said, are not fully aware of the provisions of the leases, few resorting to the services of an attorney or being famiilar with the oil industry.

"Quite often, lessees may acquire oil and gas leases and yet have enough of their own production in developed fields not to want to develop the property they are taking, or at least they desire to control and delay the time and rate of development," he asserted.

"This condition came about not only because of the overdevelopment in the known fields but also through the development of scientific methods of locating oil-producing structures."

With these methods available to all, making it impossible to limit the search for new pools, he continued, to protect themselves against new oil coming on the market in competition with their developed supplies, every major company now is engaged in extensive leasing operations.

"It is not likely that all or even a major portion of the structures under lease now will be tested during the primary term of their leases," he commented.

Changes in Leases

The new conditions brought about significant changes in leases, Knox informed the committee.

The standard "Form 88" lease in use for a number of years has no expressed covenants on the part of the lessee to do anything, he explained, and contains nothing with respect to the obligations of the lessee in the event of discovery, but the courts have read into the lease certain implied covenants, one against drainage, by the drilling of offset wells, and another requiring reasonable development of the property once oil or gas is discovered.

However, he continued, many lease forms now used carry the "Form 88" designation, but place additional burdens on the land owner, the title being retained because of the general confidence of oil-land owners in "Form 88" leases.

These new forms, largely, seek to void the remedies which the courts have set up for breach of the implied covenants.

It was pointed out by Chairman O'Mahoney as Knox concluded that his complaint merely demonstrated the "difficulty which an individual encoun-

ters in dealing with a corporation, large or small."

Asked what could be done to remedy the situation, Knox suggested that some government agency promulgate a "reasonable" form of lease, which could be given wide publicity.

"The government has no authority to do a thing of that kind," the chairman pointed out.

Pipe Line Charges Denied

Charges made by earlier witnesses that pipe line operation was returning exhorbitant profits to the companies owning such facilities were flatly denied by Fayette B. Dow, Washington, chairman of the committee on railroad transportation and member of two pipe line committees of the American Petroleum Institute.

Presenting figures compiled from records of the Interstate Commerce Commission, Dow told the committee that pipe line rates, since 1933, have been reduced approximately 35 percent and that the savings have been passed along to the public.

Appearing before the committee in response to its invitation to discuss transportation trends, Dow disclosed that in 1938 the railroads carried 48,644,376 tons of refined products, which was slightly less than the total carried in 1926, but in that period, due to the falling off in total traffic, these shipments increased from 3.8 to 6.4 percent of all freight.

Between 1931 and 1938, pipe line transportation of crude oil increased from 489,135,318 to 794,030,762 tons and of refined products from 15,658,462 to 65,116,820 tons, he said.

"Two forces are plainly at work in the transportation situation affecting not only petroleum but all transportable commodities," Dow declared. "One is competition for traffic between several types of carriers. The other is a reduction in total transportation requirements due to relocation or decentralization of industry.

"It is undoubtedly true that in recent years pipe lines, ships and tank trucks have substantially improved their relative position, as compared with railroads, for the transportation of petroleum products.

"As to crude oil, pipe lines more than 50 years ago became the established carriers for land routes. It is only when new pools are found that a railroad, if fortunately located with respect to the pool, can obtain a substantial amount of crude oil shipments, and then only until a pipe line has been extended to the pool.

"This means that as to crude oil there has been no important trend away from railroads to pipe lines in recent years. Pipe lines became the more economical and efficient means of crude oil transportation soon after the earliest pipe lines were laid."

Studying Pipe Lines

That the problem of oil transportation has not gone unnoticed by the government, Dow pointed out, is evidenced by the fact that the Interstate Commerce Commission now has three important pipe line proceedings pending, including a valuation study of the pipe lines and an investigation of pipe line rates and practices.

The valuation study, he said, has placed a depreciated cost of $345,548,016 and a final value of approximately $493,927,442, or 64 percent of original cost, on 44 pipe lines, representing 80 percent of the country's pipe line mileage, which cost $772,161,639 to build.

In 1938, according to ICC statistics, he continued, the lines had an operating income of 16.1 percent and a net income of 13.6 percent on depreciated cost, which was considerably less than in 1937 as a result of rate decreases.

Engaging in a strong defense of company-owned pipe lines—pointing out that only one pipe line was ever built by interests not connected with production or refining, for carrier purposes only, and that was unsuccessful and the line torn up, Dow contended that integrated operation affords a number of advantages to small producers.

The major advantage is that it brings the market to the producer, while others are the rapid building and extension of lines to areas of new production, the maintenance of rates for gathering and trunk line service from areas of low production on a basis of equality with areas of flush production, and the continuation of service to stripper wells long after the transportation has ceased to be profitable.

From the standpoint of the refiner, particularly the independent, he said, pipe lines are an assurance of supply, so far as that factor can be assured, and it is because the refiner looks upon his pipe line from that angle that the term "plant facility" has been given it.

Divorce Would Be No Help

Over the protest of Senator O'Mahoney that the question was now pending before a House committee and the committee was not attempting to deal with that phase of the situation, Dow insisted that there could be no discussion of pipe lines without giving attention to the question of divorce.

"I have reached the conclusion that the divorce of pipe lines would leave the present grievances unsatisfied and would create some new ones of importance," he declared, instancing the highly controverted questions of rates and profits and minimum tenders which, he pointed out, would not be resolved by a mere separation of the lines from their present owners.

"It is clear that the power of regulation would neither be increased nor decreased by a change affecting integration of the pipe lines," he contended. "Such a change would not add to the efficiency of Federal or state commissions or to the effectiveness of their administration of the laws. If any present or prospective shippers have grievances against pipe lines such grievances can be asserted before Federal or state commissions against present owners quite as successfully as against any owners who might be substituted for them. Not only that, but such grievances are less likely to arise because the present owners have much at stake in keeping the good will of the producers who are the source of a large part of their crude oil supply. In fact the relatively small number of cases brought against pipe line companies has probably been due to the general freedom from discriminatory or unfair practices prevailing in their transportation of crude oil."

Dow pointed out that the oil industry has been the subject of numerous Federal and state investigations over a long period of years, and that no person having a real or fancied grievance has failed to get a hearing. The findings of these investigations, taken as a whole, he said, recognize "the soundness of integrating pipe lines with the other operations of the oil industry."

Possible desirability of Department of Justice investigation of alleged conspiracy between major oil companies and various railroads to restrain trade was suggested by members of the committee Thursday following testimony by a "surprise" witness, Eugene L. Orvis, traffic consultant and lawyer of Jersey City, New Jersey.

Charge Collusion

Not listed by the committee among the witnesses to be called, Orvis, who apparently had been in conference previously with Department of Justice representatives, charged collusion between the railroads and the major oil companies designed so to control transportation rates as to freeze out independent refiners.

The witness supplemented his charges by documents purporting to be true copies of memoranda and correspondence between oil companies and railroad officials, included in which was a 1935 memorandum allegedly addressed to the higher executives of 13 major companies by J. J. Pelley, president of the Association of American Railroads, setting forth the terms of an agreement under which the companies were to discontinue the long-distance transportation of gasoline by truck and the railroads were to "readjust" certain oil tariffs.

The letter allegedly dealt with a situation that had been receiving attention for some weeks, after what Orvis termed "self-styled" representatives of the industry (exclusively majors) had submitted to the railroads a proposal for establishing a scale of rates to apply on shipments to a distance of 250 miles from seaboard terminals, the scale being based on the lowest cost per mile obtainable for handling bulk petroleum products whether by company-owned motor trucks, contract carrier trucks, or common carrier trucks. Certain other proposals, including a reformation of leases covering railroad property used for filling station purposes, also were allegedly involved.

The witness' attempt to introduce these documents drew from Chairman O'Mahoney a protest that "this is a matter of serious import. In the first place, it lays the basis for an antitrust suit. If that was a combination in restraint of trade, it was such a combination as would come under the laws now on the statute books."

Asked by Clarence Avildson, Department of Commerce member of the committee, why the Department of Justice has not started a suit on the basis of the information furnished by the witness, Watson Snyder of the latter department, one of the committee's counsel, explained that the letter referred to had come to the department's attention only 30 or 10 days ago and there had not been time for an investigation.

"Hearsay Testimony"

"This is hearsay testimony," Chairman O'Mahoney interjected, "and my own feeling about the study which this

committee has been carrying on is that its results will be endangered if we throw open the doors to hearsay testimony."

It was suggested by Snyder that the committee consider the documents offered by the witness and, if it deemed it desirable, issue subpoenas for Pelley and others involved, and it was finally agreed that the committee would take the matter up in executive session and determine whether to make an investigation.

Under questioning by committee members, Orvis said the letter had been addressed by Pelley to officials of Standard Oil Company of New Jersey, The Texas Company, Sinclair, Shell Eastern, Cities Service, Atlantic Refining, Standard Oil Company of Kentucky, Gulf Oil Corporation, American Oil, Pan American, Pure Oil Company of Tennessee, Wakkord Oil Company, and Pure Oil Company of the Carolinas.

Orvis' charges against the railroads later drew from Pelley a formal statement in which he said "I have not seen the complete statement submitted today to the Temporary National Economic Committee by Mr. Eugene L. Orvis, but his reference to letters from me to several oil company executives leads me to believe that it refers to efforts made by the Association of American Railroads early in 1935 to bring back to the rails a large volume of gasoline which had previously been carried by rail and was then being transported in motor trucks over the public highways. Those letters related to proposed arrangements looking toward that end which had previously been suggested by us to each of several oil companies for their consideration."

In his statement, Pelley said that the arrangements proposed, which were not consummated, were to have become effective may 1, 1935, which was the date mentioned in the purported copy of the letter referred to by Orvis.

In presenting his case to the committee, Orvis, who testified that he had had 14 years' experience in oil transportation matters, voiced views directly contrary to those expressed Wednesday by Fayette B. Dow as to the fairness of company-owned pipe lines.

"Counterfeit" Tariffs

The witness declared that the two major issues he had to present were the "connivance and collusion" of major companies with carriers serving them and "counterfeit" tariffs which he charged Great Lakes Pipe Line Company and another pipe line company had filed with the Interstate Commerce Commission, which he had protested to the commission last July, leading to an investigation.

Explaining that, in dealing with carrier rate schedules, the commission depends upon the opposition of shippers to develop objectionable features, the witness asserted that "when one company or a group of companies own or control the common carrier which transports their products, it must of necessity be a rare instance indeed when any of them questions or contests the rates and tariff provisions devised and decided upon by themselves.

"And if no one else does this, irrespective of what may be the reasons impelling others to refrain, the tariffs and their contents can continue uncontested and uncorrected indefinitely," he added. "Such of course is the inevitable result where the carrier is owned outright by the companies that use its facilities, and here is just another seedbed where monopoly is nourished."

Under question as to whether the companies were seeking a monopoly, the witness declared that "control of transportation has been and still is the aim of the industry."

The integrated companies, he charged, make the railroads "jump through the hoop" and the combined shipping strength of the majors is used to control competition.

An hour discussion of the material offered by Orvis, at an executive session Friday, resulted in a decision by the committee to investigate further the collusion alleged between major oil companies and the railroads. Following the executive meeting, Chairman O'Mahoney issued a formal statement regarding the group's action, as follows:

"Without objection, it is agreed that the executive secretary will communicate with the author, or, if necessary, the recipients, of certain purported copies of letters, documents and minutes, copies of which were presented to the committee by Eugene L. Orvis, who was among the witnesses who asked an opportunity to be heard yesterday, in order to determine their authenticity. Further action of the committee will await that study. Mr. Orvis will be recalled to the stand at later date in the oil hearing."

Submitting a 59-page statement reviewing the operations of the refinery branch of the industry and outlining its technical and other developments, Robert E. Wilson, president of Pan American Petroleum Company and its subsidiaries, abandoned a resume which he had prepared for oral delivery upon the insistence of Representative Hatton Sumners (Dem., Tex.), who said the committee recognized the contributions of the industry, but wanted to learn about monopoly.

Integration Advantages Overestimated

Wilson, attempting to read his statement, predicated his presentation by pointing out that the fact that an industry that does not make it possible for all newcomers to engage in business is not necessarily a monopoly.

There is keen competition in the refining industry, he said, testifying that there are 430 refineries in operation, owned by 300 companies. "Refining is not becoming more concentrated in the hands of a few," he asserted.

Responding to questions by Representative Sumners, the witness said that practically every patent owned by the industry is available for license at reasonable rates and that patents have not been used to build up a monopoly.

Getting down to a discussion of whether there is monopoly, at the insistence of the congressman, Wilson declared that "the advantages of integration are considerably over-estimated." He cited the case of his own company, which he said can be considered integrated because it has interests in all 4 branches of the industry, explaining that it produces only 6 percent of its crude oil requirements; has 2 short crude-oil pipe lines which, "while profitable" make only 2 cents per barrel on oil transported, has less than half of the ocean carriers which it needs and has no gasoline pipe lines.

Many Own Systems

"We feel that much of the security that is available by integration also can be obtained by long-term contracts for crude," he said, explaining that his company buys the greater part of its crude requirements. Conservation, he added, has made such contracts even more desirable.

From 80 to 90 percent of the refiners, large and small, own their own gathering systems and pipe lines, the witness told Sumners.

Pipe lines are not uniformly profitable, he asserted, testifying that Pan American has been offered a half-interest in 2 pipe lines in return for a contract to purchase the crude they gathered. The proposals, upon investigation, did not prove attractive and were rejected, he said.

"The trend toward integration does not necessarily start with the refiner," Wilson declared. "The independent producer and the marketer are naturally also concerned as to the security of their respective futures and the hazard of the fluctuating profits in different branches of the business. Many of today's large integrated companies started either as producing companies which gradually reached out toward the markets or as marketing companies which gradually reached back toward the oil well."

Proration's Influence Temporary

While the witness sought to confine his testimony to refining, questioning by committee members eventually forced the discussion of conservation and production, with Leon Henderson, executive secretary of the TNEC, asking what effect proration has on the price of crude over a long period.

Launching into an explanation of conservation, in which he compared it with water conservation through the building of a dam to assure a steady supply, Wilson expressed the opinion that in the long run proration had little or no influence upon the law of supply and demand.

"Do you think proration laws are admiistered on engineering principles or on market price?" Henderson persisted.

"I think you can get actual examples of both over the history of proration," the witness replied.

"I asked you, do you think that now proration is based on engineering or market price?" Henderson said, eliciting from Wilson in return, "What state," leading to the following colloquy:

"How many states have proration laws?"

"Seven or eight."

"How about Michigan?"

"I don't know."

"Arkansas?"

"To the best of my knowledge, Arkansas is largely on an engineering basis."

"Oklahoma?"

"There is not much shutting back of production in Oklahoma today because the total available quantity of crude is

not far different from what they are producing."

"Louisiana?"

"I think today engineering is playing more of a part than other considerations."

"Texas?"

"I think there have been cases in Texas where price entered very markedly into the considerations; I think in general the tendency has been very definitely to do the sound, intelligent thing for the individual field."

Following out this line of questioning, the chairman secured from the witness an admission that price does enter into the situation, at least at times, and asked him for an opinion, "as an oil man," whether the price element should enter into the administration of conservation laws.

"The only argument I can see for it is the stripper well," the witness responded. "That is an element that cannot be overlooked."

"Do you think that is the only price element that should be considered?" Senator O'Mahoney asked.

"Yes, and I am not sure about that. Maybe we ought to forget that entirely."

Asked what the effect of application solely of engineering principles would be, Wilson said: "If you had strict engineering principles applied to all oil fields you would not have enough oil to supply the refiners."

Listing 7 principal sources of friction between independent and integrated marketers, Sidney A. Swensrud, vice president of Standard Oil Company of Ohio, told the committee Friday that "friction exists only between some suppliers and some retailers."

The major complaints of the retailers, he said, include the short term cancellation clause in station leases, which it is alleged makes it impossible for lessees to be really independent; the alleged urging of company lessees to "be competitive"; the alleged subsidizing of lessees by low rentals; differentials in prices in favor of exclusive dealers; loans of equipments; sales direct to commercial and industrial consumers; and the sales of tires and accessories by service stations, which last is resented principally by the specialized dealers in such products.

Explaining the companies' position on these complaints, the witness pointed out that it is necessary to distinguish between "the group who believe that no extension of merchandise lines should be permitted, regardless of the means used to secure that extension, if any great number of retailers are to be injured, and the group who hold that any combination is sound unless it is brought about by low prices which do not include a proportionate share of the overhead."

Basic Complaint

The basic complaint of the wholesalers, Swensrud continued, is that it is difficult to make a profit and some contend that the integrated companies deliberately endeavor to squeeze the middlemen out of the industry.

"When states adopted proration laws, supplies available at distress prices may have been reduced, even though there was considerable gasoline available which had been made by small refiners from so-called 'hot oil,' and," he said, "with the passage of the Connally Act prohibitive interstate shipment of products made from 'hot oil' and with the improvement in business and gasoline demand, the supply of lower-price gasoline available to wholesalers has probably decreased. Some wholesalers opposed the passage of the Connally Act because they thought it would result in a smaller supply of lower-price gasoline. Continued agitation for repeal of the act comes from the same source."

Admitting that jobber and wholesaler margins have decreased in recent years, the witness explained that this was due to the long downward trend in gasoline prices and probably, in part, to the development of brand demand.

Taking up charges that the integrated companies do not seriously compete with each other, he asserted that on the contrary, competition between the so-called majors has steadily intensified. As proof of that assertion he pointed out that Socony-Vacuum, formerly Standard Oil Company of New York, which in 1911 had 85 percent of the total business in New York and New England, by 1926 had only 46 percent and in 1938 had less than 25 percent of that business.

That the majors have not even more strenuously invaded each other's territory, he said, is largely due to refinery locations, transportation problems and similar factors.

Swensrud submitted to the committee a 58-page statement, supplemented by charts, outlining the various phases of the marketing branch of the industry, and testified from a much shorter summary, from which he was frequently diverted by questions from committee members.

Proration Picture

Humble again attacks proration in East Texas . . . Texas commission gets requests for more production . . . Oklahoma-Kansas adopt bureau figures

Oklahoma October allowable held to bureau figure

Oklahoma Corporation Commission agreed upon the figure set by the Bureau of Mines in calculating the allowable for Oklahoma during October. The amount was set at 424,200 barrels daily. All stripper wells, of which there are approximately 50,000, will be permitted to produce at capacity during the month, provided that production in all unprorated areas should be limited and restricted to 75 barrels of oil per well per day.

Coyle pool, Payne County, heretofore classed as a "D" pool, has been reclassed and placed in the unclassified prorated areas. Class "D" pools have an allowable of 75 barrels per well per day.

Prorated areas have a total daily allowable of 277,553 barrels per day.

Kansas boosts October allowable to meet bureau

The Kansas Corporation Commission accepted the Bureau of Mines estimate for the October allowable for the state—at 170,600 barrels per day. This figure is 23,395 barrels a day above the September allowable of 147,705 barrels daily.

Bay Petroleum Corporation attacks Kansas proration

Bay Petroleum Corporation, McPherson, Kansas, filed suit in federal district court against the Kansas State Corporation Commission in an attempt to test the constitutionality of the new Kansas oil proration law.

The corporation claims, in its petition, that the provision of law and order, under which the commission attempts to prorate the market to all the oil pools throughout the state, "constitutes the taking of property without the due process of law."

More Texas buyers asking output increases

The Texas Railroad Commission continued last week a series of hearings to determine whether higher allowables should be granted in certain fields. Several more hearings are to be held during this week and next week.

Col-Tex Refinery asked an increase of 1000 barrels daily in the allowable for the Northwest, or Sharon Ridge field in Scurry County. Most of the crude would be used for asphalt and road oil. Ordovician Oil Company produces the oil, which Paul C. Teas, geologist for the company, said is derived from the San Angelo formation of the Permian at about 2400 feet. There are 13 wells in the field producing an average of 35 barrels daily. The commission was advised that if the increase is granted, Col-Tex Company will build a pipe line to the field. Oil is now trucked 19 miles.

During the course of the hearing, R. H. Ratliff, attorney for the refinery, said that Col-Tex had purchased 100,000 barrels of 12-year old crude from Magnolia Petroleum Company to supply its demands during the 15-day shutdown.

West Texas

Gulf Oil Corporation requested an increase of 7500 barrels daily to be produced from seven West Texas fields. Because other purchasers are in the area, only 5000 barrels would be available to Gulf Oil Corporation. The company needs the oil to supply a new demand. The increases asked include: Keystone Lime, 500 barrels; North Ward and Sealy, 1500; Gulf-Mc-

Elroy, 1000; Estes, 1500; Church-Fields, 1000; Goldsmith, 1500, and Waddell, 500 barrels.

O'Hern

Amsco Refining Company has requested an increase of approximately 28,000 barrels per month for the O'Hern field in Webb County. K. W. Bartlett, president of the company, said that the additional oil could be produced at the rate of 29 barrels per well per day, the current allowable, if the commission permitted operators to produce six days a week.

J. W. Stayton, attorney for Amsco Refining Company, said that no evidence on waste was offered because he was of the opinion that the two-day shutdowns were instituted to keep production within demand and not for the purpose of preventing waste.

While no operator appeared to oppose the change, F. V. L. Patten, chief petroleum engineer for the railroad commission, said he would hold the docket open for evidence on waste because several wells in the field had gone dead during the past year.

At a hearing two weeks ago, when this company asked for increases from the Loma Novia field, operators objected because they said the additional production would cause waste.

The commission has scheduled several hearings on applications for increases in allowables.

On October 13, the commission will hear the application for the increase at Voth, Cooke County. This hearing was postponed from October 3. At the same hearing, the commission will discuss the Bowers pool in Montague County.

A list of the other hearings for increases in allowable follows:

October 12, Minnie Bock, Nueces County; October 14, Reynolds, Jim Wells County; October 16, Captain Lucey, Jim Wells County; October 16, Segno and Segno Deep, Polk County; October 20, Refugio, Refugio County.

Humble again attacks proration in federal court

Hearing of the supplemental petition of Humble Oil & Refining Company, by which it is seeking an increase of 21,750 barrels daily output from its leases in the East Texas field, has been set for October 12, in Houston. The petition previously had been set for hearing in San Antonio, October 11.

The petition is an attack on the legality of the proration order of the Texas Railroad Commission of September 29, wherein allowables for all Texas fields were fixed for October. Previously the commission had issued an order September 11, which Humble Oil & Refining Company attacked, with the result that an interlocutory degree was issued against the commission.

The chief contention of the petition is that Humble Oil & Refining Company holds 14.3 percent of the remaining reserves of the East Texas field, while the latest proration order permits it to produce at the rate of 11.15 percent of the total reserves of the field. The petition asks that the plaintiff be allowed to increase its daily output to overcome this difference.

A.I.M.E. Technical Abstracts

[*Continued from page 33*]

umes of gas actually consumed are represented in the above figure, which were 434, 63, 36 and 210 cubic feet per barrel of oil produced in the first four mentioned fields, respectively, there being no utilization in the two Coastal Texas fields.

Economics of Water Flooding

By K. B. NOWELS,
Engineer and Geologist,
Abilene, Texas

Four years ago large scale water flooding projects were installed for the first time in the Mid-Continent area in the old Nowata field of Oklahoma. It is interesting, and somewhat surprising, to know that these operations are expected to yield higher investment return rates than the industry's average for drilling new wells.

Financial analysis of investments and net profits of the petroleum industry shows that returns on the investment over a period of 17 years averaged slightly more than 2 percent. The highest return on investment returned during this period was 4.96 percent. It is interesting that 15 prominent floods scattered over the Bradford, Pennsylvania, area during 11 of these years showed a net profit of $3,182,121 on an investment of $6,300,000. This represents 50.5 percent on the investment, or 4.59 percent a year, and is twice the amount of the average return for the industry at large.

Figures prepared for estimation purposes prior to large scale flooding in the Nowata field showed a probable profit of $3,559,259 on an investment of $4,664,000. This represents 76.31 percent return or 6.93 percent per year. These figures have been proven conservative, as preliminary estimates were based on recoveries of 4400 barrels per acre and actually the first flood has now yielded over 6000 barrels an acre. The Bradford figures were during a period of $2 to $3 per barrel price, while no more than $1 per barrel has been paid for Nowata crude. At Bradford, where the producing formation is 1700 feet deep, development costs of floods average $3000 per acre. The 500-foot depth at Nowata permits flood development for $800 to $900 per acre. An investigation of several shallow North Texas properties, where the producing sand was 350 feet below the surface, indicated the possibility of flooding for approximately $500 an acre.

In the first Nowata flood, without considering various taxes, interest charges and other overhead items, $220,000 worth of development has produced 1,000,000 barrels of oil, or $4.45 for every dollar spent in drilling and development. This is 1.14 times the industry's average of finding $3.89 worth of oil for every dollar spent for drilling activities, and 29.8 barrels for every foot drilled.

Production curtailment has increased the payout period of a well to from 2 to 7 years, with possibly a 4-year average for the industry at large. In contrast, in water floods, due to the fact that peak production is reached 3 to 6 months after beginning, there is a more rapid return of investment and the average payout will be in from 7 to 12 months.

A Comparison of Several Methods For Estimating Oil Reserves

By ROGER H. DAVIS,
University of Texas.

Although oil and gas reserves have been estimated since the beginning of the petroleum industry, changes in operating methods and the accumulation of additional significant data has stimulated increased attention to this most complex subject. A vast amount of work remains for the future since there yet remain many phases of the subject which have not been solved satisfactorily.

As the oil industry has expanded, and the investment in properties increased, it has become necessary to make more accurate estimates of reserves.

After studying all the various methods suggested for the computation of reserve estimates, it appears no one method should be considered as adequate for estimating the reserves of a property or pool. All possible approaches should be considered and used where advisable, and the final estimate made by weighing carefully all data and evidence available.

While the estimation of reserves of many oil and gas properties today is extremely complicated, and in many cases cannot be calculated accurately, improved methods have facilitated greatly the estimation of unmined reserves.

Mixing of Gases in Porous Media

By RICHARD DUCKER and
R. L. HUNTINGTON,
University of Oklahoma.

In gas recycling and pressure maintenance operations, the problem of premature dilution of the original reservoir fluid is being given serious consideration, especially in the Gulf Coast where single phase "distillate" fields predominate. These so called "gaseous" fields yield a high gravity crude oil or distillate upon reduction in pressure, a phenomenon known as retrograde condensation. The return of the denuded or dry gas to the reservoir is required for three principal reasons:

1. The conservation of fuel;
2. The maintenance of a single phase fluid within the reservoir; and
3. To drive the distillate bearing fluid toward the producing wells.

The producer of a distillate pool should know how many cubic feet of dry gas must be returned to the reservoir in order to produce a certain percentage of the original crude oil content. The ideal situation would be one in which the dry gas would push the distillate bearing fluid forward as a piston to the producing wells without mixing taking place in the pore space.

However, this desirable condition does not exist and experiments were conducted to attempt to find the rate of mixing that occurs in porous media under such situations.

This study pointed out the likelihood of much slower diffusion between gases at higher reservoir pressure. However, it appears that the dilution of rich distillate gas with the dry recycled gas will present a problem, the failure to

solve which may result in the shortening of the economic productive life of a field due to the eventuality of high, prohibitive recycle ratios. Until a mass of data can be accumulated showing the effects of such variables as injection rates, well spacing, gas densities, permeability, porosity, etc., the empirical method of attacking the problem seems to be the logical approach.

A Method for Measuring the Amount of Entrained Gas in Drilling Fluid

By SYLVAN CROMER,
Louisiana State University.

It is believed, in many instances, that if the presence of gas could be detected early enough, that by proper treatment of the drilling fluid it could be made to eliminate the gas in the slush pits, thereby preventing much drilling trouble due to the continual concentration of gas trapped in the mud column and recirculated. A method of testing for gas must therefore be such that results may be obtained quickly in the field.

Several methods have been developed for determining the presence of entrained gas in mud, the one described in this paper being developed to eliminate the need for making any calculations.

After filling the device's cylinder with the fluid and eliminating any air or excess fluid through a petcock, a plunger is run into the cylinder until the test pressure is indicated by the gage and the percentage of gas is then read directly from a scale.

Dispersion of Clays and Shales by Fluid Motion

By ALLEN D. GARRISON, K. C. TEN BRINK and P. B. ELKIN
The Rice Institute, Houston

This paper presented the results of an investigation of certain clay and shale suspensions having viscosities that are materially influenced by fluid motion.

As time elapses under the influence of fluid motion, particularly when there are already appreciable solids present, dispersion advances. The viscosity is increased, for several reasons: (1) there are produced a greater number of individual grains capable of building a gel structure and thus contributing to the structural viscosity; (2) particles are released within the colloidal range and, if capable of hydration, increase that part of the viscosity that is contributed by the factor of hydration; (3) new surface areas are developed, and there may be a deficiency of deflocculating agent to completely cover these new areas and prevent flocculation; and (4) base exchange between the drilling-fluid clays and the marine shales may release metallic ions that are more flocculating in nature. These difficulties are not immediately evident at the time the solid content of the drilling fluid rises; they develop later and are the result of increased dispersion.

It is noteworthy that this phenomenon is subject to some chemical control. Some retardation of the effect may be obtained by a drastic reduction in the total solid content of the fluid and by a restoration of the density, if necessary, by solids of higher specific gravity than clay. Deflocculating agents help by lowering interparticle friction, but it is not advisable to combat this problem with adjustment to high pH+ values. It may be possible to obtain better temporary deflocculation, but if the shale dispersion is promoted rapidly the immediate improvement in viscosity may be more than offset by accelerated dispersion of shale fragments.

Gas Injection Operations at Louden, Illinois

By R. J. SULLIVAN
Carter Oil Company

The Louden field of Illinois is the site of one of the industry's most singular large-scale gas injection programs, probably unmatched anywhere in several unique respects. The project, operated by Carter Oil Company, is one of early-life repressuring as contrasted with pressure maintenance of high-pressure areas and repressuring of depleted regions.

A pilot plant and system was connected to gather gas from 56 wells in the north end of the pool, and to boost the residue to 750 pounds pressure. Compression is performed in three stages. Gas is handled by two 300-horsepower 4-cylinder 2-cycle angle-drive units. Their capacity is 2,500,000 cubic feet daily. An extension currently under construction will give a joint capacity, from two connected plants, completely equipped for absorption, fractionation and stabilization of 10,000,000 cubic feet daily.

Before the end of the year 50 input wells are expected to be in operation over 4000 acres.

Initial operation was begun November 29, 1938. Per-well volumes have never exceeded 30,000 cubic feet daily, but the average has been about 17,000. During the 5-month period from the inception until April 30, 1939, the project had 15,500,000 cubic feet of residue, or 26 percent by volume of the oil and gas withdrawals restored to the formations.

Flow of Gas-Liquid Mixtures Through Consolidated Sand

By HOLBROOK G. BOTSET
Gulf Research and Development Company, Pittsburgh

Experiments on the flow of gas-liquid mixtures through consolidated sands led to the following conclusions:

1. The mechanism of approach to equilibrium saturation is very little affected by the consolidation of the sand.

2. The equilibrium saturation is probably dependent upon the cementation and grain-size distribution, but it may easily be determined on a small core sample.

3. The cementation and the grain-size distribution of the sand are also important in their influence on the permeability-saturation relation. For quantitatively applicable results these relations should be determined on the actual sand in question.

4. The ultimate recovery from a consolidated sand will in general be less than that from an unconsolidated sand of the same permeability, the difference in recovery depending upon the grain-size distribution and the degree of cementation.

5. Assuming a uniform sand with no water drive or structure present, the final saturation, at the conclusion of the period of natural production, is essentially uniform throughout the sand body.

6. Surface and interfacial tension as well as viscosity must be relatively unimportant since results of experiments on the large core with water and carbon dioxide agree with those obtained on a small core with natural gas and oil.

Some Phases of Chemical Control in Clay Suspensions

By ALLEN D. GARRISON and K. C. TEN BRINK
The Rice Institute, Houston

In the practical chemical control of drilling fluid, it is necessary to distinguish and adjust the factors that favor the different forms; for example, during the drilling of formations that do not contribute to the colloidal material of the drilling fluid in appreciable amounts, it is desirable to add to the drilling fluid just enough of the highly hydrated and highly dispersed form to maintain the proper physical characteristics of the fluid.

But during the drilling of more bentonitic clays, and particularly during the drilling of the more colloidal marine shales, it is found that the highly dispersed and highly hydrated colloidal form may spontaneously increase to excessive amounts. It is, therefore, important in these cases to recognize that the chemical control should be directed only to the maintenance of deflocculation under conditions that do not favor any tendency to increase in dispersion and hydration. This is all the more important when it is necessary to add weighting material to the drilling fluid.

Salt Water Disposal Methods in the East Texas Field

By A. S. RHEA
Sun Oil Company
and E. B. MILLER
Tide Water Associated Oil Company

Salt water disposal in the East Texas field by means of injection into the Woodbine sand is a relatively new procedure, the success of which cannot be forecast at this time.

The cost of a salt water disposal well and plant varies from $20,000 to $30,000.

The cost per barrel for disposal of salt water is still an unknown quantity, since the plants have not been in operation long enough to determine the life expectancy of a disposal well. However, experience obtained has indicated that it may be economically possible to inject salt water into the Woodbine sand.

Colloid Chemistry of Clay Drilling Fluids

By A. G. LOOMIS, T. F. FORD and J. F. FIDIAM
Shell Development Company

It is only in the past 10 years that serious attempt has been made to improve rotary drilling fluids by the application of the principles of colloid chemistry, although the use of chemicals to control the rheological properties of clay had long been known in the ceramic industry.

The application of thixotropy and gel strength to drilling problems was discussed in detail, and it was shown that while both elasticity and mechanical strength of clay gels are destroyed as a result of chemical treatment, the initial gelling rate of muds in the completely de-gelled condition is not changed significantly. An equivalent degree of gel strength which may differ in its mechanism but not in its utility, may be regained in a treated mud by adding salt.

On the basis of the detailed structure of clays as revealed by x-ray analysis, chemical formulas were written for colloidal clay particles and utilized to explain most of the phenomena shown

by clay suspensions. Finally, it was shown that the assumption of edge-to-edge contact to form structures in clay colloidal systems was in accordance with experimental facts.

Some Problems of Proration

By J. ELMER THOMAS,
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Looking back over 12 years of proration one is impressed by the series of changes its administration has undergone, especially during the last 8 years when the perennial problem of East Texas was added to the others. Changes in our amount and comprehension of engineering data, changes in policies and changes in the laws have been witnessed almost continually.

Since it appears the industry is going to have to live with the system, it should attempt to improve it wherever possible. We should retain its benefits and perhaps through improvements of administration even greater benefits can be achieved.

It is the thesis of this paper that most of the difficulties lie with administration, not in the principles of proration.

Since the fundamental legal basis, the avoidance of waste, the primary purpose should be the conservation of oil and gas, and that principle should be applied as a guide to each change in methods. If any other factors run afoul of a conservation program they should be rejected. If they aid and advance the true tenets of conservation (the avoidance of waste) they should be adopted.

If the allowed output of all wells was reduced to their optimum rates of flow, there would be little, if any, surplus to cut back further, and consequently most of the controversies over allocations to the respective states, to the pools within a given state, and to the wells in any one field would be eliminated. This would promptly solve one of the most troublesome matters.

A large part of our proven reserves are undrilled. With daily production limited to optimum rates of flow the additional wells could be drilled when and where necessary, and, of course, a normal wildcatting program could be counted upon to discover new sources of supply for some time to come.

If a top allowable were set for all newly discovered pools, to be progressively divided among all the unneeded wells which operators felt they were compelled to drill, there would be a sharp diminution in the development of new fields whose reserves were not required to balance supply and demand.

The increasing economic pressure of diminishing output and delayed capital return has pointed out the fallacy of the per well basis for prorating, and it is encouraging that in the more recently developed fields wider well spacing is not only permitted but required and the acreage factor, or some other equitable measure of reserve supply, is given increased weight.

Few, if any, changes in the state conservation laws would be called for and no federal regulation would be needed to adopt these, and other, notable proration improvements.

Texas Mid-Continent Meeting

[*Continued from page 31*]

a tax system that will permit the industry to progress continually for the benefit of all.

The report stressed that the industry is aware of the fact that there are persons who are continually advocating higher taxes on oil in Texas. These proponents of higher taxes on oil justify their position by telling the people of Texas that our industry pays only 2¾ cents per barrel in taxes, while some of the other oil producing states levy severance taxes which range from 4½ to 11 cents per barrel. They would lead the people to the false conclusion that the Texas oil operators occupy a favored position among the producers of the nation, and that Texas is not receiving an adequate compensation for the exhaustion of her natural resources. These proponents of higher taxes on oil forget to mention, or wilfully omit to mention the fact that severance taxes levied by some of the other oil producing states are in lieu of ad valorem taxes on oil in place. They never mention the amount the Texas oil industry pays in such ad valorem taxes, both to the state and its local subdivisions, the report stated.

F. T. Baldwin, chairman of the wage-hour committee, read the annual report. It was shown that about 25 bills were introduced in the first session of the 76th Congress, seeking to amend the Fair Labor Standards Act, and that several of the amendments introduced were substantially the same as those sent out by the association's Mr. Mapes.

The report of the forms simplification committee was read by Guy L. Tate, chairman. It covered the activities of the committee since its origin in July, 1937. The Railroad Commission of Texas was petitioned by the Mid-Continent Oil and Gas Association at the state-wide hearing on July 19, 1937, to suspend its order of July 1, 1937, requiring of producers monthly well status report, on the basis that representatives of the commission would be assigned to work with a committee of this association in an endeavor to eliminate, consolidate, revise and simplify reports required of the oil industry by the Railroad Commission of Texas to the end that the number of reports might be reduced and unnecessary duplications avoided. It was suggested that the July 1 order be suspended pending the completion of the work of the committee and representatives of the commission and until such time as a special hearing could be held. The order was suspended.

Since that time the committee has worked with the Texas Railroad Commission in an effort to simplify forms and to facilitate accounting for the oil producer.

Homer P. Rainey, president of the University of Texas, delivered a paper on "The Changing Economy of Texas and Its Implications."

In an address by Orville S. Carpenter, chairman and executive director of the Texas Unemployment Compensation Commission, it was shown that the oil industry contributes about 20 percent of the total taxes collected for unemployment compensation. The commission has been collecting such taxes since 1936, and of a grand total of $59,000,000 collected, $17,500,000 has been paid out. The balance represents the present reserve. It was shown that two theories exist as to the reasons for unemployment compensation. One holds to the claim that payment of benefits to the unemployed is the nation's first line of defense; another that the first line of defense against unemployment is jobs. Texas holds to the latter theory, it was shown.

Petroleum Accountants elect officers and directors

The Petroleum Accountants Society opened its 1939 activities by holding a meeting September 28, when officers for the ensuing year, and three directors were elected for a three-year term. R. B. Hanson was elected president; B. E. Witchell and L. E. Tustison, vice presidents; and Norman C. Cross, secretary and treasurer. The newly elected directors were R. B. Hanson, B. E. Witchell, and Norman C. Cross. There are nine on the board and the six directors holding over are E. B. Branson, L. P. Harrington, A. W. John, E. H. Looseley, L. E. Tustison, and W. H. Massey.

Much interest has been shown, and the society has made a rapid growth, during the last two years, under the leadership of J. M. Flaherty, as president, and the other officers and directors who served with him during this period. The present membership is 140. Eligibility to membership requires that the member be engaged in the field of petroleum accounting. Regular membership meetings are held each month from September to May, where speakers present subjects touching on matters of common interest to the petroleum accountants. Some of these speakers are chosen from the membership, and on occasions outside speakers are brought in.

Clarel B. Mapes, general secretary of the Mid-Continent Oil & Gas Association, was the guest speaker at the last meeting, and presented an address on federal legislation affecting the oil industry.

Special train arranged from South Texas to API at Chicago

The Missouri Pacific Lines has announced a special train from South Texas to Chicago for the annual A.P.I. meeting. The train will leave Houston Union Station at 6:15 p.m., November 11, arrive St. Louis 12.30 p.m. November 12; leave St. Louis 1:00 p.m. and arrive Chicago Union Station 6:15 p.m. Departure from Houston is arranged to permit attendance at the Rice-Arkansas football game.

Market Situation

Lubricants feature improved tone as prices of crude and refined oils rise . . . Gasoline is firm

Prices of crude and refined oils higher

The industry's markets have continued strong, and price increases within the past week affected some grades of crude oil as well as nearly all products. The advances for products were not only at refineries but also affected schedules of prices to dealers and retail prices.

Lubricants continued to feature the markets, further increases having been made in wholesale prices, and supplies having continued short of the greatly stimulated demand.

Industrial fuel oils also were in the limelight, as supplies were relatively scarce, while refiners sought actively to line up larger supplies of crude suitable for manufacture of the industrial oils, particularly for bunkering ships.

The strong demand for supplies of crude with good fuel oil content was primarily responsible for the raising of crude oil prices in Southwest Texas and on the Gulf Coast, although those increases also reflected to some extent the fact that the southern Texas oils are desirable for their lubricant content.

Crude Prices Raised

The crude price increases initiated October 2 by Humble Oil & Refining Company affected the Texas Gulf Coast, the Refugio and Mirando districts of Southwest Texas, and Talco field in eastern Texas, and ranged from 1 to 12 cents a barrel; and when other purchasers fell in line, increases were extended to the Louisiana Gulf Coast, Cayuga field in eastern Texas, and several other areas. The East Texas field was favorably affected, some buyers that had placed the field on a gravity basis several weeks ago having restored the flat $1.10 posting.

Gulf Coast Fields

Increases for the Texas-Louisiana Gulf Coast fields, including those of the Anahuac type, affected only crudes below 26 gravity, the oils below that grade having been placed on a 2-cent differential instead of the former 3-cent spread. That change meant a 1-cent increase for 25-25.9 gravity, and another 1 cent for each degree downward, to a maximum of 7 cents for the "below 20 gravity" oil, which was raised in the regular coastal fields from 79 to 86 cents, and in the Anahuac type fields from 74 to 81 cents.

Southwest Texas Increases

The advances for the Mirando and Refugio districts ranged from 5 to 12 cents a barrel and affected all grades, although the larger increases were for the heavier oils. For crudes of 26-26.9 gravity and lighter, prices were raised 5 cents a barrel, to a top of $1.28 in the Mirando district and to $1.23 for Refugio grade crudes, those maximum postings applying to 40 gravity and above. For the crudes of 25-25.9 gravity, increases amounted to 6 cents in both districts, and another 1 cent was added for each degree downward. Thus bottom prices were raised 12 cents, to 86 cents in the Mirando district and to 91 cents in the Refugio area, those minimum postings applying to oils below 20 gravity.

Eastern Texas Changes

Talco crude was raised 10 cents to 65 cents a barrel. That crude is used primarily for making asphalt and road oil. Cayuga crude also was advanced 10 cents to 78 cents a barrel.

Companies that abandoned gravity scale prices for the East Texas field included Sinclair Prairie Oil Marketing Company, DeSoto Crude Oil Purchasing Corporation, and others. Sinclair had been paying from 96 cents for below 33 gravity to $1.10 for 39 gravity and above, since the six-state shutdown period.

The new prices posted by Humble Oil & Refining Company were generally met by other purchasers, including Gulf Refining Company, Magnolia Petroleum Company, Atlantic Petroleum Purchasing Corporation, Stanolind Crude Oil Purchasing Company, Sun Oil Company, Sinclair Prairie Oil Marketing Company, The Texas Company, and others. Independent companies of South Texas that fell in line included Amsco Pipe Line Company, buying in Saxet, Luby, O'Hern, and other areas; Terminal Refining Company, Nueces County buyer; Pontiac Refining Corporation, also a Nueces County purchaser; Barnsdall Pipe Line Company, buying at Placedo and Heyser; Duval Pipe Line Company, operating in Duval and Nueces counties; and Southern Minerals Corporation, buying at Turkey Creek, Richard King, and other fields. The latter company also posted a 5-cent increase for Reynolds field, Jim Wells County, making the top price $1.28 there, as compared with a $1.23 flat posting by Humble for all Jim Wells County crudes.

Gasoline Prices Advanced

The firmness of the gasoline market was further reflected in tank car and tank wagon price advances. Standard Oil Company of New Jersey on October 1 raised commercial consumer tank car prices 1 cent a gallon in North Carolina. On September 30 the company had advanced commercial consumer tank car and tank wagon prices ½ cent a gallon in Maryland and the District of Columbia, and had raised commercial consumer and dealer tank car and tank wagon prices ½ cent in Virginia, West

Trends of United States Production and Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1937						
August 28	[5]3,731,450	3,425,000	309,506,000	66,997,000	112,111,000	
September 25	3,666,300	[5]3,455,000	307,974,000	65,620,000	116,472,000	
1938						
March 19	3,433,550	3,080,000	306,380,000	[10]93,192,000	122,067,000	
August 27	3,388,500	3,255,000	285,029,000	71,754,000	29,747,000	117,179,000
September 24	3,251,150	3,220,000	280,278,000	68,605,000	31,183,000	119,285,000
October 29	3,237,500	3,145,000	275,824,000	67,590,000	33,690,000	120,029,000
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
November 26	3,260,900	3,295,000	270,563,000	68,628,000	33,749,000	119,885,000
December 10	3,245,100	3,150,000	[6]269,509,000	68,587,000	32,068,000	118,711,000
December 31	3,201,450	3,115,000	273,024,000	71,695,000	29,082,000	115,741,000
1939						
January 28	3,248,250	3,235,000	271,763,000	77,279,000	26,583,000	112,766,000
February 25	3,328,850	3,185,000	271,758,000	84,597,000	23,419,000	110,252,000
March 25	3,382,350	3,225,000	273,915,000	87,561,000	21,487,000	107,551,000
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,058,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
May 27	3,585,250	3,405,000	278,289,000	84,152,000	26,992,000	109,386,000
June 24	3,452,800	3,430,000	272,297,000	81,733,000	30,239,000	111,726,000
July 1	3,463,000	3,480,000	271,567,000	81,102,000	31,230,000	113,388,000
July 29	3,539,100	3,460,000	268,513,000	77,887,000	34,900,000	114,053,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 19	2,480,550	[1]3,575,000	262,486,000	74,738,000	37,013,000	115,069,000
August 26	[10]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
September 2	2,283,200	3,375,000	236,643,000	73,194,000	38,228,000	116,022,000
September 9	3,228,650	3,380,000	233,826,000	72,244,000	38,136,000	115,656,000
September 16	3,422,350	3,470,000	233,016,000	71,869,000	38,394,000	115,230,000
September 23	3,681,050	3,570,000	[3]232,811,000	71,020,000	38,075,000	115,266,000
September 30, 1939	3,658,200	3,560,000	.....	71,168,000	38,081,000	115,466,000
October 1, 1938	3,231,800	3,235,000	[4]280,278,000	68,602,000	[8]	[9]
Change in past year	+13.2%	+10.0%	—16.7%	—3.7%	—2.1%	—7.8%

[1] All time peak. [2] Peak for 1939. [3] Lowest since April, 1922. [4] Stocks, September 24, 1938.
[5] Peak prior to 1939. [6] Lowest for year.
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
[8] Available data for year ago include only stocks at refineries, and not at terminals, in transit, etc., except in California. Those stocks on September 30, 1938, totaled 30,860,000 barrels, and comparable stocks on September 30, 1939, totaled 30,209,000 barrels, or 2.1% less.
[9] Available data for year ago include only stocks at refineries, and not at terminals, in transit, etc., except in California. Those stocks on September 30, 1938, totaled 120,366,000 barrels, and comparable stocks on September 30, 1939, totaled 110,921,000 barrels, or 7.8% less.
[10] Lowest since October, 1922, due to the shutdown of six Mid-Continent states.

CRUDE OIL PRICE SCHEDULES

MID-CONTINENT GRAVITY SCALE PRICES—Posted October 11-13, 1938

(Some fields of Mid-Continent have flat price postings, and are shown separately)

Gravity	[7]Okla.-Kans.	North La.-Ark.	[9]Schuler, Ark. 9-13-39	North & W. Central Tex.	East Central Tex.	Gray Co. Tex.	Carson, Hutchinson Co. Tex.	[1]Tomball Tex. Type	West Tex.-New Mex.	[2]Gulf Coast (Tex.-La.) 10-2-39	[3]Some La. Gulf Areas 10-2-39	Jennings, La.	[4]Anahuac, Tex. Type 10-2-39	[5]Refugio, Tex. Type 10-2-39	[6]Mirando, Tex. Type 10-2-39	[8]Salt Creek, Wyo.
17–17.9..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18–18.9..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19–19.9..	.....	.....	.....	.....	.....	.....	.....	.....	*$0.53	*$0.86	*$0.86	.....	*$0.81	*$0.91	*$0.86	.....
20–20.9..	$0.60	.....	.....	.....	.....	.....	.....	.....	.55	.88	.88	.....	.83	.93	.88	.....
21–21.9..	.63	.....	.....	.....	.....	.....	.....	.....	.57	.90	.90	.....	.85	.95	.90	.....
22–22.9..	.66	.....	.....	.....	.....	.....	.....	*$0.95	.59	.92	.92	.....	.87	.97	.92	.....
23–23.9..	.69	.....	.....	.....	*$0.78	.....	.....	.97	.61	.94	.94	.....	.89	.99	.94	.....
24–24.9..	.72	*$0.73	*$0.63	*$0.71	.80	.....	.....	.99	.63	.96	.96	.....	.91	1.01	.96	.....
25–25.9..	.75	.75	.65	.73	.82	.....	.....	1.01	.65	.98	.98	.....	.93	1.03	.98	.....
26–26.9..	.78	.77	.67	.75	.84	.....	.....	1.03	.67	1.00	1.00	.....	.95	1.05	1.00	.....
27–27.9..	.81	.79	.69	.77	.86	.....	.....	1.05	.69	1.02	1.02	.....	.97	1.07	1.02	.....
28–28.9..	.84	.81	.71	.79	.88	*$0.72	*$0.67	1.07	.71	1.04	1.04	.....	.99	1.09	1.04	*$0.86
29–29.9..	.87	.83	.73	.81	.90	.74	.69	1.09	.73	1.06	1.06	.....	1.01	1.11	1.06	.88
30–30.9..	.90	.85	.75	.83	.92	.76	.71	1.11	.75	1.08	1.08	.....	1.03	1.13	1.08	.90
31–31.9..	.92	.87	.77	.85	.94	.78	.73	1.13	.77	1.10	1.10	*$0.87	1.05	1.15	1.10	.92
32–32.9..	.94	.89	.79	.87	.96	.80	.75	1.15	.79	1.12	1.12	.89	1.07	1.17	1.12	.94
33–33.9..	.96	.91	.81	.89	.98	.82	.77	1.17	.81	1.14	1.14	.91	1.09	1.19	1.14	.96
34–34.9..	.98	.93	.83	.91	1.00	.84	.79	1.19	.83	1.16	†1.16	.93	1.11	1.21	1.16	.98
35–35.9..	1.00	.95	.85	.93	1.02	.86	.81	1.21	.85	1.18	.....	.95	1.13	1.23	1.18	1.00
36–36.9..	1.02	.97	.87	.95	1.04	.88	.83	1.23	.87	1.20	.....	.97	1.15	1.25	1.20	1.02
37–37.9..	1.04	.99	.89	.97	1.06	.90	.85	1.25	.89	1.22	.....	.99	1.17	1.27	1.22	1.04
38–38.9..	1.06	1.01	.91	.99	1.08	.92	.87	1.27	.91	1.24	.....	1.01	1.19	1.29	1.24	1.06
39–39.9..	1.08	1.03	.93	1.01	1.10	.94	.89	1.29	.93	1.26	.....	1.03	1.21	1.31	1.26	1.08
40+.....	1.10	1.05	.95	1.03	1.12	.96	.91	1.31	.95	1.28	.....	1.05	1.23	1.33	1.28	1.10

* Minimum price and applies also to purchases of lower gravity.
† Maximum price and applies also to purchases of higher gravity.
[1] Tomball, Raccoon Bend (Deep) and Satsuma.
[2] Includes Amelia, Barbers Hill, Big Creek, Blue Ridge, Clear Lake, Cotton Lake, Esperson, Fannett, Goose Creek, Hankamer, Lovells Lake, Lochridge, Moore, Mykawa, Nome, Orange, South Liberty, Spindle Top, Sugar Land, Thompsons, Webster, and West Beaumont.
[3] Includes Berwick Bay, Bay St. Elaine, Caillou Island, Chacahoula, Dog Lake, Four Isle, Gillis, Hackberry, Horseshoe Bayou, Iberia, Jefferson Island, Lake Barre, Lake Pelto, Leesville, Port Barre, and Vinton fields.
[4] Anahuac, Dickinson, Gillock, Cedar Point, Fairbanks, Turtle Bay, Hull, Orange, Pierce Junction, Batson, Caplen, Humble, North Dayton, Saratoga, Sour Lake, South Esperson, Spindle Top, West Orange, Thompsons (deep), and Raccoon Bend (shallow) fields.
[5] Includes Saxet, E. White Point, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.
[6] Includes Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields.
[7] Oklahoma Pipe Line and Magnolia schedules.
[8] Includes La Barge, Midway Dome, Dutton.
[9] Also Buckner, Village, Magnolia.

Virginia, North Carolina, and South Carolina.

Effective October 4 Socony-Vacuum Oil Company advanced its tank car prices for all grades of automotive gasoline and naphtha ½ cent a gallon throughout New York state and New England. No general increase was made at that time in tank wagon prices, although some upward adjustments were scheduled to be made at Buffalo and some New England points. In announcing the higher tank car prices, the company explained that several factors were responsible, including a marked rise and firmness in the Gulf Coast cargo market, the Western Pennsylvania refinery tank car market, and higher tanker rates from the Gulf Coast to the North Atlantic seaboard. The company added that the increase did not fully reflect those factors.

Gasoline Prices

U. S. motor gasoline at Oklahoma refineries ranged last week about as follows: 62 octane and below, 4½ to 4¾ cents a gallon; 63 to 66 octane, 4¾ to 5⅛ cents; 67 to 69 octane, 4¾ to 5¼ cents; 70 to 72 octane, 5¼ to 5½ cents.

Corresponding prices in the Chicago market were: 4¼ to 4¾ cents, 4⅜ to 4¾ cents, 4½ to 5⅛ cents, and 4⅝ to 5⅜ cents.

In East Texas 60-62, 400 end point gasoline was offered for 4¾ cents a gallon.

Natural gasoline, grade 26-70, was selling in the Mid-Continent markets f.o.b. refineries at 4¼ cents a gallon, and sales were reported at the same price f.o.b. Breckenridge, Texas.

Kerosene Prices

Kerosene prices f.o.b. Oklahoma refineries ranged from 3½ to 4¼ cents a gallon for the 41-43 water white grade, and from 3⅝ to 4⅝ cents for the 42-44 water white grade; and corresponding prices in the Chicago market were 3⅜ to 4 cents and 3⅝ to 4¼ cents.

In the Chicago market range oil was priced from 3⅜ to 3⅝ cents a gallon. The No. 1 white oil was priced from 3⅜ to 3¾ cents, and No. 1 straw at 3¼ cents. No. 2 straw was 3⅛ to 3¼ cents. No. 3 oil was 3 to 3⅛ cents. No. 5 oils were 65 cents a barrel. The No. 6 oil was quoted at 40 to 45 cents.

Mid-Continent Flat Prices

	Flat Price	Date Posted
Arkansas:		
Smackover	$0.73	10–12–38
Louisiana:		
Garden Island	1.24	10–12–38
Gibson	1.04	10–11–38
Lafitte	1.04	10–12–38
Texas:		
Cayuga	.78	10– 2–39
East Texas	1.10	10–12–38
Talco	.65	10– 2–39
Livingston, Cleveland	1.10	10–12–38
Van	.93	10–12–38
Pettus	1.29	10–12–38
Pecos County	.78	10–12–38
Pecos Shallow	.65	10–12–38
Luling	.87	10–12–38
Lytton Springs	.99	10–12–38
Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski	.96	10–11–38
Flour Bluff-Jim Wells Co.	1.23	10–11–38
Guerra	1.06½	5– 8–39
Seabreeze, Willow Slough, La Belle, Hardin, S. China	1.10	9–14–39
Clay Creek	.85	10–13–38
Conroe	1.27	10–11–38
Long Lake	1.08	10–19–38

Some flaws in generally good statistical picture

The industry's statistical situation has remained generally favorable, although operations at wells and refineries have continued at exceptionally high levels. The chief danger of the large refinery runs has been the jeopardizing of the gasoline market, production of that product having increased and normal seasonal withdrawals from storage having been interrupted.

United States crude oil production in the week, ended September 30 averaged 3,658,200 barrels daily, according to the American Petroleum Institute, or approximately 23,000 barrels less than in the previous week, although about 150,000 barrels a day more than market demand, as estimated by the Bureau of Mines. The output was 13.2 percent larger than in the comparable week last year.

Crude runs to stills were reduced 10,000 barrels but remained close to the all time peak, having averaged 3,560,000 barrels a day. The runs were 10 percent larger than in the corresponding week last year.

Gasoline Situation

Gasoline production was 57,000 barrels a day greater in the week of September 30 than in the previous week, having totaled 12,085,000 barrels, or 1,726,000 barrels daily on the average.

The increased gasoline output prevented a withdrawal from storage, which would have been normal, and resulted in the addition of 148,000 barrels to stocks. The total of finished and unfinished gasoline in the United States now is 71,168,000 barrels, or 3.7 percent more than the supply on hand a year ago.

Inasmuch as gasoline demand has been running only about 5 percent higher this year than last year, the industry is closely approaching the same burdensome gasoline inventory position that it occupied last fall. This building up of gasoline stocks to dangerously high levels is being risked, apparently,

in the hope that further expansion of domestic and foreign demand lies ahead. But whether or not such hope will be fulfilled remains to be seen.

Furthermore, the dangerous trend of gasoline stocks probably is somewhat unintentional, being partially the result of efforts to build up stocks of both light and heavy fuel oils, in response to exceptionally good demand for those products.

Fuel Oil Situation

Stocks of gas oil and distillate fuels (heating oils) were increased by the small amount of 6000 barrels in the week ended September 30, but the supply on hand at the end of the week, totaling 38,081,000 barrels, was 2.1 percent smaller than that held a year previously, whereas demand has been running almost 20 percent higher this year than last year.

Inventories of residual fuel oil (industrial fuels) also were increased by a small amount, 200,000 barrels, within the week. The 115,466,000 barrels in storage at the end of the week represented a supply 7.8 percent smaller than that held at the corresponding time last year, although demand has been about 10 percent better.

Crude oil stocks in the United States were further reduced 205,000 barrels in the week ended September 23, according to the Bureau of Mines, a new 17½-year low of 232,811,000 barrels having been reached. The crude inventory is 16.7 percent smaller than at this time last year, the stocks on September 24, 1938, having totaled 280,278,000 barrels.

Crude Production

National output drops 231,205 barrels as Texas shuts in another day; other states also down

United States output of crude oil during the week ended October 7 averaged 3,430,800 barrels daily. The sharp decline—231,205 barrels—from the production level of the preceding week was due to enforcement of a third shutdown day in Texas and minor losses in California and Kansas. Production was held 159,500 barrels below the Bureau of Mines October estimate of demand for crude oil, with California, Illinois, Arkansas, and Michigan the only states to overstep.

Texas averaged 1,254,400 barrels daily as the additional curb cut production 242,400 barrels from the week before. Outturn at this rate was 190,400 barrels below bureau recommendation and 106,163 barrels below the average state allowable for the month as a whole.

California yield slipped to 602,850 barrels daily; off 6950 barrels from the week previous and 8050 barrels beneath federal forecast. Central Committee recommendation was exceeded by 4550 barrels.

Louisiana produced 255,800 barrels, gaining 6500 barrels on the week before but remaining within state and federal allocations by 2704 and 4500 barrels, respectively.

Oklahoma output was 402,325 barrels daily, up 14,620 barrels from the previous week. Both conservation and economic allotments were observed by 21,875 barrels.

Illinois registered a gain of 4950 barrels that brought outturn to 349,150 barrels daily. The bureau recommendation for October, although liberalized, was still overrun by 73,650 barrels.

Kansas produced 144,075 barrels daily; 13,150 barrels less than the week before and 26,525 barrels less than state and federal allocations.

Texas commission working on butane handling rules

The Texas Railroad Commission has recessed its hearing on proposed rules and regulations for the handling of liquefied gas (butane) in installations and transportation. The commission plans to prepare a set of regulations which will be submitted to the industry for consideration before final adoption, according to Olin Culberson, chief of the Gas Utiltiies Division.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (October)	State Allowable in Oct.	BARRELS DAILY FOR WEEK ENDED Oct. 7	Sept. 30
TEXAS—				
Texas Panhandle	.....	.....	57,750	64,900
North Texas	.....	.....	72,500	84,750
West Central Texas	.....	.....	26,100	32,050
West Texas	.....	.....	209,500	257,300
East Central Texas	.....	.....	78,500	92,200
East Texas Field	.....	.....	415,000	495,050
South Texas	.....	.....	197,950	234,750
Texas Gulf Coast	.....	.....	197,100	235,800
Total Texas	1,444,800	1,360,563*	1,254,400	1,496,800
CALIFORNIA—				
Long Beach	.....	.....	45,250	45,300
Santa Fe Springs	.....	.....	27,250	26,200
Huntington Beach	.....	.....	27,600	26,100
Dominguez	.....	.....	18,850	18,500
Ventura Avenue	.....	.....	36,750	35,300
Midway-Sunset	.....	.....	45,300	49,700
Kettleman Hills	.....	.....	51,750	50,900
Wilmington	.....	.....	87,150	85,500
Others	.....	.....	262,750	272,300
Total California	594,800	598,300†	602,650	609,800
OKLAHOMA—				
Oklahoma City	.....	.....	91,750	75,725
Seminole Area	.....	.....	96,125	92,500
Fitts	.....	.....	22,350	20,550
Others	.....	.....	192,100	198,930
Total Oklahoma	424,200	424,200	402,325	387,705
LOUISIANA—				
North Louisiana	.....	.....	68,850	66,350
South Louisiana	.....	.....	186,950	182,950
Total Louisiana	260,300	258,504	255,800	249,300

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (October)	State Allowable in Oct.	BARRELS DAILY FOR WEEK ENDED Oct. 7	Sept. 30
ILLINOIS—				
New Pools	.....	.....	341,250	336,000
Old Pools	.....	.....	7,900	8,200
Total Illinois	275,500	.....	349,150	344,200
KANSAS—				
Burrton-Haven	.....	.....	8,725	9,650
Russell County	.....	.....	17,500	24,850
Silica	.....	.....	8,675	10,050
Others	.....	.....	109,175	112,675
Total Kansas	170,600	170,600	144,075	157,225
NEW MEXICO	114,200	114,200	99,100	101,250
EASTERN STATES—				
Pennsylvania Grade	.....	.....	76,350	74,000
Others, Eastern	.....	.....	26,300	24,300
Total Eastern States	103,300	.....	102,650	98,300
MOUNTAIN STATES—				
Wyoming	69,000	.....	65,950	64,250
Montana	16,500	.....	16,400	16,200
Colorado	3,900	.....	3,700	3,700
Total Mountain States	88,400	.....	86,050	84,150
MICHIGAN	55,000	.....	68,250	67,400
ARKANSAS	56,100	65,800	66,150	65,875
Total United States	3,590,300	.....	3,430,800	3,662,005

* Daily average, considering 11 days of shutdown and water and Rodessa exemptions.
† Recommendation of Central Committee of California Oil Producers.

WEEK'S DRILLING HIGHLIGHTS

Southwest Texas

New sands were recorded for Ben Bolt and Angelita. Victoria and Goliad counties reported gas discoveries. South of Agua Dulce townsite a wildcat tried to blow out. A potential of 171 barrels was given the discovery well of a new sand at LaGloria. Preparations were being made to test the discovery well of Cologne gas field. Discovery of Yegua gas on Sejita prospect may open the way for an exploratory trend in Duval County.

Montana

A second Sunburst sand zone was proven productive at North Cut Bank. Pondera recorded its first completion for 1939.

Wyoming

A Dewey Dome test logged oil showings in Minnekahta and Opeche sands. A wildcat on North Geary anticline, Natrona County, passed up Wall Creek sand.

Texas Gulf Coast

Completion of an outpost in a new Frio sand extended Anahuac 3500 feet. League City got a new sand on the north flank.

Oklahoma

New pay horizons were put on record for Langston, Laffoon, and a spot in Grady County. Simpson lime may pay off 6 miles east of Lexington, Cleveland County. Cavings are troublesome at 14,550 feet in the state's deepest drilling test.

Illinois

McClosky saturation was cored in a White County wildcat near Carmi. North and south outposts were productive at Sandoval. A southwest extension for Weiler sand production at St. James was indicated.

Indiana

A near completion indicated a fourth producing horizon for Griffin.

Arkansas

A Smackover lime wildcat on a geophysical prospect in Ouachita County was abandoned at 6098 feet after recording non-commercial shows.

Kansas

Bartlesville sand may contribute an oil field near Esch gas pool. A 354-barrel well linked Coralena and Trapp. Stumps was extended a mile northeast. Northwest of Wherry a mile a conglomerate showing was being tested. Canton North may be extended; an outpost is testing. Cress pool's west outpost is standing with 1400 feet of oil in the hole.

North Louisiana

Rodessa chalked up a north extension of 1100 feet. After topping Wilcox at 1550 feet, a wildcat on a Caldwell Parish geophysical prospect was pronounced a failure at 7528 feet.

North Texas

A nominal showing below 7800 feet in a Hardeman County wildcat may cause deeper drilling in the district. Wichita County got another shallow pool in the K-M-A area, where a deal probably will call for 30 tests.

New Mexico

Pumping 30 barrels from 1803 feet, a wildcat assured northern Eddy a new shallow field. A northeast extension of Penrose required 3 offsets.

West Texas

Lower Pennsylvanian furnished Nolan County a new deep field. Estes field, Ward County, got a 4572-barrel well, largest in months. Wasson-Bennett's water table was established as being higher than expected.

Comparison of Permits Granted for New Wells

STATE	Week Ending Oct. 7	Total this Mo.	Total this Year	Total this Date Last Year	1938 Year Total
Arkansas	3	3	180	193	247
California	20	20	803	957	1,146
Louisiana	52	52	1,056	1,007	1,214
Kansas	34	34	1,166	1,228	1,453
Michigan	23	23	1,092	715	953
N. Mexico *	20	20	125	.....	.....
Oklahoma	48	48	1,563	1,605	1,978
Texas	173	173	7,876	10,296	12,369
Total	373	373	13,861	16,001	19,360

* Data for New Mexico prior to August 1, 1939 not available.

Summary of Wells Completed in the United States Week Ending October 7, 1939

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1939	Total this Date 1938
Alabama	....	....	....	....	.....	1	2
Arizona	....	....	....	....	.....	1	....
Arkansas	5	3	....	2	1,258	185	174
California	22	18	1	3	7,942	821	989
Colorado	1	1	....	....	60	16	6
Florida	....	....	....	....	.....	....	....
Georgia	....	....	....	....	.....	1	1
Illinois	79*	65*	....	14	25,161	2,843*	1,109
Indiana	6	2	....	4	445	178	96
Kansas	48	35	6	7	39,715	1,100†	1,335†
Kentucky	6	2	1	3	200	503	609
Louisiana	27	20	....	7	5,688	836	859
Michigan	36	14	1	21	4,185	1,135	722
Mississippi	....	....	....	....	.....	11	12
Montana	3	2	1	....	110	113	57
Nebraska	....	....	....	....	.....	1	1
New Mexico	14	10	....	4	3,429	493	419
New York	18*	18*	....	....	35	466*	539*
North Dakota	....	....	....	....	.....	....	....
Ohio	15	4	7	4	119	734*	757*
Oklahoma	37	20	2	15	4,570	1,571†	1,712†
Pennsylvania	31*	28*	2	1	29	1,218*	1,737*
South Dakota	....	....	....	....	.....	....	....
Tennessee	....	....	....	....	.....	....	2
Texas	211	158	6	47	99,387	7,426	9,999
Utah	....	....	....	....	.....	....	3
West Virginia	12	3	7	2	33	421	544
Wyoming	1	1	....	....	1,920	107	82
Total this week	572	404	34	134	194,286	20,168	21,666
Total last week	542	369	52	121	311,696	19,596	21,089
Total this year	20,168	13,735	1,482	4,951	13,946,460	....	....

* Includes water input wells. † Includes salt water disposal wells.

Oklahoma Fields

New pay zones in Lincoln, Logan and Grady counties.

Magnolia to drill on large block in Dewey County.

Tulsa.—Second Wilcox sand proved a new horizon in Langston, Logan County, when Sinclair Prairie Oil Company's Ford 1, SW NW NE 12-17n-1w, which previously was a producer from the Marshall zone at 5082 feet, was deepened to 5152 feet. On a 9½-hour gauge, it flowed 295 barrels of oil. This showing prompted the company to deepen Smith 1, NW SW SE 12-17n-1w, below 5100 feet.

Both Wilcox sands were found dry at Jones Associated Oil Company and Kerr-Lynn Oil Company's Ridgon 1, C W½ NE SE 29-18n-4w, off the west edge of Lovell area, a hole which was bottomed at 6275 feet.

Making 50 million cubic feet of gas and 200 barrels of heavy crude, Yorkan Production Company opened the first Hunton lime pay at Laffoon, Lincoln County. Tipton 1, C NW SW 15-13n-6e, came in for a good producer from the lime at 4120-4148 feet. Simpson-Wilcox zones were previous pays in the field.

Sinclair Prairie Oil Company was making additional perforations in lower Permian sands at Charlson 4, NEc SE 22-5n-8w, Grady County, to increase the gas volume which at present is measuring at 2,000,000 cubic feet daily from a new deep horizon. Depth is 3714 feet, and due to high shut-in pressure, 1760 pounds, trouble is being experienced in perforating above 3675 feet.

Oklahoma Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo—		
Johnson et al, McKenna 1, sw se ne sw 3-5n-9w	2246	3373
Stephens, Kidd 2, nw ne ne 27-6n-10w	4	2460
Carter—		
Shell, Johnson 26, 60 ft w sec sw 4-4s-3w	*	1037
Cleveland—		
Carr's Olsen 1, ne sw sw 11-10n-1w	*	30
Creek—		
Stuart, Deer 1, ne se ne 4-14n-10e	*	3250
Martin, Perryman 1A, sw sw ne nw 28-14n-10e	*	1805
Chapman, Allen 2, nw se se 35-15n-10e	174	3161
Central Commercial, Kelley 1A, ne se sw 5-18n-9e	*	3065
Curtis Oil Co., Brown 1A, se ne sw 20-18n-9e	*	3000
Jackson, Grayson 1, sw se se 20-18n-9e	17	2926
Big Four, Rector 3, se nw ne 24-19n-7e	65	2650
Hilderbrand, Schumaker 1, sw sw ne sw 24-19n-7e	20	2651
Pure, Richards 15, c w½ nw se 33-19n-7e (otd 2569 ft)	*	2419
Steckoll, Davidson 1, se ne nw 6-19n-8e	*	2832
Jackson—		
Cotner, Grimes 1, nwc se 14-1n-20w	*	1605
Ray, Madine 2, se nw nw 5-1s-19w	60	2572
Carter et al, Harman 12, se sw nw ne 27-1s-5w	5	870
Lincoln—		
Wilcox, School Land 4, se sw se 16-14n-6e	50	3075
Okfuskee—		
Wells et al, Autry 2A, ne ne nw se 25-10n-11e	¶1.1	2160
Berry Bros., Foreman 1, nw ne ne 1-13n-10e	*	3331
Okmulgee—		
Swick Oil Co., Milner 1, nw nwc ne 1-13n-12e	*	2005
K. B. K. Production Co., Beaver 2A, sw sw ne se 19-13n-12e	30	2010
Harmon et al, Bright 3, nw ne nw ne 27-15n-12e	¶0.7	1934
Osage—		
Mertz 3, nec se 21-24n-8e	*	460
Tide Water 1, nw se se 24-26n-4e	*	3354
Charles Petroleum Co., 1, c n½ nw sw 3-28n-11e	330	965
Pawnee—		
Thomas et al, Rhoades 1, c e½ nw ne 28-20n-6e	76	2964
Pontotoc—		
Patsy, Bates 3, sw nw nw 26-2n-7e	12	4032
Grisso et al, Haskins 1, se sw sw 27-5n-4e	50	2639
Pottawatomie—		
Atlantic, Harris 1, ne nw sw 6-6n-4e (otd 4605 ft)	462	3312
Berkey, Hardin 2, sw se sw 29-7n-4e	566	4305
Magnolia, Magnolia-Billington 4, se sw ne 21-7n-5e	125	4110
Seminole—		
Iglehart et al, Lack 1A, 120 ft w swc nw 3-6n-5e	172	4129
Riddle, Norvell 1A, nw sw nw 29-6n-6e	*	2865
Southern Oil Corp., Strip 1, ne nec se 21-7n-5e	100	2752
Rogers et al, Hawkins 1, ne se sw 36-8n-7e	6	3540

* Failures; † Junked; ¶ Million cu. ft. gas.

Simpson Possibility

Simpson lime may pay-off in Cleveland County. Sinclair Prairie Oil Company's Ward 1, SEc 30-7n-1e, 6 miles east of Lexington, acidized the lime with 6000 gallons, combined with an oil load of 55 barrels, and was awaiting reaction. The hole was plugged back to 6182 feet and 2½-inch tubing run to 6780 feet.

Twelve miles southeast of Taloga in Dewey County, Magnolia Petroleum Company staked an important trend wildcat on a surface structure, checked by core drill and seismograph surveys. Feikes 1, C SW SW 31-18n-14w, on a 9600-acre block, put Western Oklahoma again in the spotlight. The test is scheduled for from 8000 to 9000 feet, or the Wilcox sand, and will be drilled by company tools. The spread extends approximately 2 miles west, 2 miles to the north, 3 miles east and 1 mile south of the spot location. No other major has leases within the block.

Seeking Depth Record

Deep drilling in Western Oklahoma featured wildcat activity. Continental Oil Company was seeking a new world's depth record at Proctor 1, C NW 28-10n-20w, 7 miles southeast of Elk City, Washita County. A liner was set to protect the new hole after sidetracking at 14,479 feet when drill pipe became stuck. Eleven-pound mud was being circulated and cavings were causing some trouble at 14,550 feet.

Rotating below 8125 feet, Anderson-Prichard Oil Company et al's Geis 1, C NE SW 15-18n-9w, 4 miles northwest of Loyal, Kingfisher County, was the lone well for the county. Gas was still cutting drilling mud.

Another defining marker for Ramsey, Payne County, went on record when Murray and Griffey et al's Davis 1, SEc 24-18n-1e, 1½ miles south of the pool, was abandoned at 5066 feet in second Wilcox sand. The first sand was topped structurally low at 4940 feet, although a small show was reported in Hunton lime. Kirk-Green-Way, Incorporated, completed rigging up at Doran 1, NWc SW 32-19n-2e, 2½ miles north of the pool.

A failure one mile south of Broyles, Payne County, was seen when Kenneth Ellison et al's Kelly 1, SEc SW 27-18n-4e, was abandoned at 3905 feet after stuck drill pipe twisted off on bottom.

First Fish-Sasakwa Setback

Fish-Sasakwa area, Hughes County, received its initial setback at Rogers and Rogers' Warren 1, SEc 4-6n-8e, which was abandoned after several weeks of testing. It showed for 10 barrels daily, but salt water in Cromwell sand at 3208 to 3285 feet was discouraging and hole was stopped at 3350 feet.

Opener Performs Well

Stanley Rogers and others' new pool opener in Hughes County continued to show up as a good producer. Booch sand at 2646-76 feet was shot with 70 quarts at Scott 1, NE SE NW 23-6n-8e, 3 miles southeast of Spaulding pool. Flow was estimated as increasing to 300 barrels daily after cleaning out was accomplished.

North Yeager pool, Hughes County, saw renewed activity as Sam Jewell Oil Company staked 2 new locations in the area.

West Earlsboro, Pottawatomie County, was defined on the south when E. P. Kerr et al's Herrington 1, NWc 24-9n-4e, found salt water in Wilcox sand and shut down operations at 4540 feet.

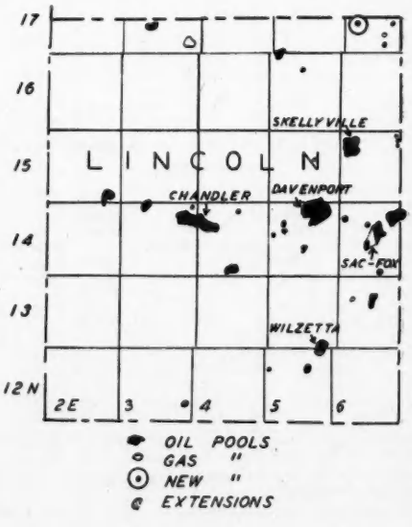
An extension test for St. Louis, Kerr-Lynn Oil Company et al's Ogee 1, NE NW NE 17-7n-5e, 1½ miles east of production, was rigging up.

Midco Oil Corporation's Tipps 1, NEc SW 17-22n-8e, 2 miles north of North Boston, Osage County, had only a small show of oil in lower Simpson and was drilling below 3000 feet.

Southeast of Little River, Seminole County, Burke-Greis Oil Company et al's Johnson 1, NE SE NE 25-7n-6e, had minor gas shows in Gilcrease and Cromwell sands and was rotating below 3345 feet, looking for Wilcox sand.

George L. Pace moved in rig for Maxine 1, C W½ SE NE 18-10n-6e, a flank test for North Searight pool.

Two wildcats were being closely



watched in Tillman County: ½ mile east of West Frederick pool, Indian Territory Illuminating Oil Company was drilling below surface pipe at Peter 1, SW NW NW 6-3s-18w. Hole was being started at Magnolia Petroleum Company's Amyx 1, NW SW SE 17-3s-16w, 6 miles southwest of East Frederick.

Off the axis of the Central Oklahoma Arch, D. M. Crowe staked Gosting 1, SEc 14-27-2e, 4 miles west of Mervine pool, Kay County. The test is on a north-south trend; Wilcox sand is the objective.

Stone Bluff sand pay is being sought at J. F. Quinn's test in NW SE SE 16-16n-15e, a mile southeast of production in Stone Bluff, Wagoner County. The sand is usually encountered at from 1400 to 1500 feet.

Lincoln County Again in Development Column

After a series of disappointments earlier in the year, Lincoln County again jumped back into active field developments. Murray and Griffey opened a new Prue sand pool at Burke 1-A, SE SW NE 20-17n-6e, 3 miles southeast of Cushing and 8 miles north of Skellyville pool, Lincoln County. Operators were still cleaning out after a 140-quart shot at 2865 to 2904 feet, as the hole was caving badly. The well is estimated from 75 to 150 barrels daily.

A 1604-barrel well, by far the best in the Wilzetta pool, was brought in by Morgan-Gulf Company, Yorkan Production Company and George Deck. Ulsack 1, CNL NE NW 2-12n-5e, was acidized with 1000 gallons in Hunton lime at 4216 feet. On a later gauge it flowed steadily at 65 barrels hourly, oil being 39.5 gravity. A revival for the old area is expected and may reach southeastward toward Prague.

Three new locations were staked in the Skellyville extension area. All three offset Julia Oil Company and Conley Drilling Company's Selby 1, NEc 8-15n-6e, a quarter-mile northeast of the pool. From Hunton lime at 3921 feet, the well made a potential of 336 barrels in 24 hours, on initial testing and later settled down to 250 barrels daily. Lime was acidized at 3892 to 3926 feet. Lively 1, NWc 9-15n-6e, was staked for an east offset. Julia Oil Company made location at Bailey 1, SWc 4-15n-6e, a northeast diagonal offset and Estes 1, SEc 5-15n-6e, a north offset.

Prue sand failed to pay off at Portable Drilling Company's Nickell 1, SEc 17-14n-5e, southwest of Davenport pool. When plugs were drilled through 27 feet of saturated sand at 3525 feet to 3552 feet, salt water ruined the showing, which made some oil. Rotary equipment was again rigged up to deepen to the Bartlesville sand, expected within 500 feet.

North of the one-well abandoned Meeker pool, D. F. McMahon staked Percival 1, SEc 24-12n-3e. One previous attempt to revive the area failed.

Well spacing request granted

Tulsa. — Magnolia Petroleum Company was granted a 10-acre well spacing program for a Calvin sand pool north of East Earlsboro pool, Seminole County. This source of supply is probably confined to S½ S½ 7-9n-6e, SW SW 8-9n-6e, W½ 17-9n-6e and 18-9n-6e.

Kansas Field Developments

Jock Garden hits Bartlesville pay near Esch pool.

Coralena-Trapp linking well output is 354 barrels.

Wichita.—Jock Garden and others made a Bartlesville strike at Rahn 1, SWc NW 13-34-5e, 3 miles south of Esch gas pool in Cowley County. Sand was topped at 2900 feet and found good saturation from 2915 feet to 2940 feet. While drilling oil rose 500 feet in the hole. The test was scheduled for Arbuckle lime, and if it proves dry, the Bartlesville will be plugged back for further testing.

Coralena and Trapp pools, Russell County, were joined by Gulf Oil Corporation's Everett 1, C W½ SW NE 20-15-13w, ½ mile from each pool. Three feet of Arbuckle lime, 3317 to 3320 feet was penetrated when oil rose up the hole. On a state potential it made 354 barrels of oil in 24 hours. West of production in the Trapp pool, Ferrier et al staked location for Kramer 1, SW NW SW 14-15-14w.

Stumps Extended

Mid-Continent Petroleum Corporation completed Dougherty 1, SW SE NW 33-17-10w, for a potential of 104 barrel daily from Arbuckle lime at 3249 to 3275 feet. This extended Stumps pool, Ellsworth County, a mile northeast.

C. L. Carlock and others were testing a showing of oil and gas at Rennelett 1, SEc NE 36-20-8w, a mile northwest of the Wherry pool, Rice County. Conglomerate was topped at 3317 feet and drilled to 3323 feet for the show. In the same county, Fred Jones et al's Benke 1, SWc NW 25-18-10w, a mile east of Orth, was checking high and drilling below 2775 feet. Two miles east of Ponce pool, Rice County, Sam Sneider et al's Pollock 1, NWc 26-21-7w, was an Arbuckle lime failure at 3426 feet.

The Silica extension area received two good producers. Skelly Oil Company completed Bernstorf D-1, C N½ SW SW 23-19-10w, for 488 barrels daily; Arbuckle lime at 3266 feet, total depth, was acidized with 5000 gallons. Bernstorf E-1, C S½ NE SE 22-19-10w, filled 750 feet with oil in 12 hours from Arbuckle lime at 3285-87 feet.

Drillers Gas Company completed a gasser in the Cunningham area of Pratt County. Gerber 1, C E½ E½ 35-27-11w, had Viola lime at 4122 feet to 4142 feet. After acidizing with 2000 gallons, it blew in for 28,000,000 cubic feet per day. Saturated Kansas City-Lansing was picked up at Skelly Oil Company's Steffan B-1, C SE 36-27-11w, at 3490 to 3494 feet. Top was at 3482 feet and drilling was going on below 3950 feet, looking for the Mississippi lime.

Testing Outpost

A north extension for Canton North pool, McPherson County, was testing. Kuhns and Funk et al's Wilson 1, SEc NE 26-18-1w, ½ mile north of production, topped Chat at 2810 feet and bottomed the hole at 2815 feet. Casing was run to top of the pay.

Barton County reported a wildcat

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start and a failure. E. Rabon et al's Ford 1, C S½ 7-18-15w, a mile north of Otis gas pool, was a location. Broderick and Gordon abandoned Kowalsky 1, C N½ SE NE 30-20-11w, 4 miles south of Ellinwood pool, Barton County; Arbuckle lime was drilled dry to 3442 feet.

Cress pool, Ellis County, was moved westward at Lario Oil & Gas Company's Cress 1, SWc 13-11-17w, when oil rose 1400 feet in the hole from 3382½ feet. Cress 2 had casing cemented and was testing at 3363 feet.

S. L. Parks' Fisher 1, NWc NE 25-26-1e, 2 miles west of Greenwich pool, Sedgwick County, was a failure at 3047 feet.

Simpson, Noble and Aylward Production Company abandoned Marsh 1, NWc SW 23-28-6e, 1¼ miles south of Kramer pool, Butler County, at 3251 feet in Arbuckle lime.

Jefferson County in northeastern Kansas was again given an active operation. Huntsman Haworth and others staked Mosbacher 1, SEc NW 4-10-20e, 12 miles northwest of Linwood gas pool and 30 miles from nearest oil production in the Baldwin City pool of Douglas County.

H. H. Billerman and others moved in a machine for Hancock-Rauscher 1, C NL N½ NW 1-25-13e, 2 miles northeast of Quincy pool, Woodson County. Location was made on the axis of a prominent fold after considerable geophysical work and well log study.

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Kansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton—		
Sinclair Prairie et al, Seyfert 4, sec nw 28-16-11w	*	3384
Shell, B.tter "B" 5, se nw se se 6-16-13w	1008	3356
Burmeister 3, ne nw se 3-17-11w	992	3375
Schneider "A" 1, ne ne sw nw 19-18-15w	¶24.5	3512
Butler—		
Crown, Manny 1, nwc se 33-28-5e..	75	2775
Cowley—		
Wakefield et al, Starkey 1, sec ne 32-30-4e	*	3322
Brewer, Zerger 1, swc ne 33-30-4e	913	3290
Republic Natural, Curfman 1, nwc se 33-30-4e	984	3303
Roth Oil & Gas Co., Gretsinger 3, sw ne ne 15-31-4e	10	3466
McKnab et al, Hittle 5, nw sw ne 21-31-4e	7086	3356
Trees, Lewis 1A, se nwc ne 28-31-4e	2994	3348
McKnab, Moon 3, nw sw se 16-32-5e	547	3094
Moon 4, se ne sw 16-32-5e	560	3092
Blair et al, Dunlap 4, ne nw ne 21-32-5e	158	3031
Douglas—		
Three Star, Griffith 1, c nw se 4-14-18e	*	2160
Ellis—		
Shell, Rumsey 23, nec 23-11-17w	1332	3409
Margay et al, Bemis 1, c s½ nw ne 33-11-17w	139	3484
Phillips, Sites 1, c s½ se sw 12-11-18w	275	3350
Ellsworth—		
Polhamus et al, Matthews 1, c s½ sw sw 19-17-10w	273	3304
Gulf, Grissell 9, nec 31-17-10w	273	3280
Johnson—		
Hammel, Ballard 2, nw se se 4-12-24e	*	560
Willingbring, Raney 1, se nwc sw 17-15-23e	¶0.2	610
Marion—		
Kaufman, Pritz 1, 30 ft w nwc sw 26-17-4e	35	2388
Harwood, Navak 3, nec nw 28-17-4e	240	2413
Larieux et al, Novak 1, ne nw sw 28-17-4e	150	2405
McPherson—		
Carey, Knackstedt 1, c s½ se sw 30-20-5w	1944	3328
Pratt—		
Skelly, Sitton 1, c nw se 26-27-11w	¶18.25	4129
McClellan 1, c sw 36-27-11w	¶51.75	4165
Sinclair Prairie, Allbritten 1, ne ne sw ne 1-28-11w	¶28.5	4170
Reno—		
Westgate-Greenland, Haggerty "B" 2, sec nw 36-22-5w (salt water disposal)		4605
Rice—		
Hollow et al, Gouldner 1, c s½ se se 5-18-9w	*	3288
McPherson Drlg. Co., Patton 1, sec 9-19-9w	138	3246
Skelly, Ira 1, c s½ sw nw 27-19-10w	1742	3044
McGuire 1, swc ne 34-19-10w	385	3311
Mid-Plains, Steierl 1, c w½ sw nw 23-21-7w	847	3392
Rooks—		
Broadview, Baxter 1, ne sw sw 35-8-16w	269	3263
Russell—		
Skelly, Colliver 4, nec sw 28-14-13w	1158	2900
Billings, Herbel "B" 2, nwc sw 26-14-14w	884	2945
Stearns et al, Olson "A" 8, nwc 27-14-14w	2711	3085
Aylward et al, Solback "A" 1, sw ne ne 31-14-14w	2246	3058
Phil-Han, Mai 1, cwl nw se ne 34-14-14w	*	3286
Continental, Meharg 5, nw sw ne 17-15-13w	2088	3226
Coralena, Sellens 8, nw sw nw 17-15-13w	15	3232
Southern, Trapp 3, sw se ne 29-15-13w	600	3321
Shell, Batt "A" 2, sw se se 35-15-14w	313	3339
Stafford—		
Moore, Johnson 4, c n½ nw ne 13-24-11w	6331	3776
Stevens—		
United, Gregory 1, sw swc ne 1-33-39w	¶29	2628
Woodson—		
McCormich et al, Specht 1, nwc 34-25-14e	*	1524

* Failures; † Junked; ¶ Million cu. ft. gas.

Illinois Developments

White County wildcat near Carmi cores saturation.

Long delayed Irvington test will be started soon.

Illinois Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Champaign County—		
Sidney O&G Co., Wendling 1	*	1780
Clay County—		
Pure, J. H. Holman 2	1400	3133
Holmes Consolidated 3	671	3140
Leon Clark 10	123	3095
Sanders et al, Lafe Gill 1	420	3101
Fayette County—		
Carter Oil Co., Harvey Durbin 9	528	1572
Marion Finch 2	40	1577
Marion Finch 3	196	1578
Ramsey-Hopper 6	668	1581
Cynthia Hopper 22-7	I	1504
Joe Kline 2	480	1561
John Dial 6	654	1587
Wm. Ireland 9	684	1587
J. T. Wright 7	136	1616
J. T. Wright 8	56	1571
Texas Co., M. J. Griffith 4	259	1614
E. McKee 3	210	1544
Ohio Oil Co., Schwarm 1	96	1614
W. C. McBride, Williams 2	*	1746
Redwine et al, Logue 2	124	1547
W. B. Johnson, Logue 2	110	1555
Logue 3	125	1548
Stewart Drilling Co., Aldrich 2	45	1570
Aldrich 3	35	1571
Shell, C. F. Fulton 10	70	1568
Gallatin County—		
Buford et al, Egyptian Tie 1	*	2478
Jefferson County—		
Wiser Oil Co., Severs	*	2365
Magnolia, Schulik 1	6	2228
Knox County—		
O. H. Hammer, H. Bragg 1	*	800
McDonough County—		
A. J. Hammer, Powell 1	*	110
Marion County—		
Texas Co., Richardson-Hawkins 1	189	1965
M. A. Tate 3	2191	1866
W. Friedrick 9B	140	1847
City of Centralia 13	196	1885
City of Centralia 35	210	1882
T. Fisher 1	427	2141
J. Hamlin 1	574	2145
E. Jett 20	147	2098
F. Shanafelt 5	609	2100
R. Friedrich 6	490	2023
W. Friedrich 11A	812	1870
W. Friedrich 12A	420	2047
A. McCollum 16	630	2025
Baldwin et al, Schaffner 1	*	3024
Max Pray, Robinson 2	4765	3002
Southwestern O&G Co., Benoist 22	*	1670
Booth & Absher, Sisson 1	25	2157
Ohio, Young 17	189	2080
M. Young Heirs 20	290	2080
Magnolia, W. O. Chitwood 33	888	2070
J. H. Young 55	336	2070
J. H. Young 56	1200	2075
Monroe County—		
Columbia Quarry, Fee 1	*	750
Montgomery County—		
Soliday & Sand, Moon 1	*	1252
Richland County—		
Pure, Storer Consolidated 1	88	2973
Storer Consolidated 2	3	2964
Southgate 1	230	2634
Mabee Drilling Co., Sparr 8	60	2614
F. H. Allen et al, S. Sechrest 1	38	2589
Wabash County—		
C. D. Neff, Bump 2	56	2430
Shell, A. P. Bump 1A	97	2453
Continental, Scharf 2	28	2481
Eason Oil Co., C. E. Schauf 2	29	2501
G. C. Howell et al, B. & A. Shultz 4	*	2552
Washington County—		
Magnolia, Barczewski 1	80	1273
S. Kurwicki 7	58	1290
Shell, Klozak 4	18	1286
Lilly et al, T. Kozuszek 1	61	1287
Wayne County—		
Pure, C. B. Clay 13	8	3156
Florence Behymer 4A	1080	3090
W. G. McCracken 3A	94	3110
J. F. Fisher 1	*	3384
Whitcher Dev. Co., Farmer 1	22	3095
H. H. Weinert, Muhlbach 2	960	3287
Gulf, L. Sunderland 1	302	3384
Carl Robinson et al, Hormick & Murphy 1	300	3417
Hormick & Murphy 2	500	3397
White County—		
Shell, J. O. McIntosh 1	*	3434
M. S. Marks, Smith 1	*	3455

"I" indicates gas input well.

* Failures; † Junked; ¶ Million cu. ft. gas.

Mattoon, Ill.—Continental Oil Company's G. P. Hanna 1, SE SE NW 28-5s-10e, wildcat 2 miles southeast of Carmi, White County, set casing after recovering saturation in a McClosky core taken between 3088 and 3100 feet. At an elevation of 392 feet it topped the Glen Dean at 2464 feet, the Cypress at 2720 feet and had a slight show of oil in the Aux Vases from 2991 to 3046 feet.

In a week lacking an outstanding completed operation, Illinois interest was divided between three important deep tests. The long-awaited "Irvington" test for Washington County was made an actuality when Kingwood Oil Company announced it would begin drilling Charles Brink 1 immediately in SE SW SE 15-1s-1w. The 160-acre lease, on a highly regarded structure, was obtained by the company about 2 months ago, and the wildcat will be carried to the Devonian if production is not obtained at a higher level. Surrounding acreage is held by Gulf Refining Company, Magnolia Petroleum Company, Shell Oil Company and W. C. McBride, Incorporated. The wildcat is a mile west and ½ mile south of Irvington.

Finds McClosky Dry

In Wayne County, New Penn Development Company's Xanders 1, NE SW SW 7-2s-9e, Leech Township, was drilling at 3800 feet towards the Devonian. The wildcat, which is the first deep test for this section of the basin, found the McClosky dry and drilled through the St. Louis, topped at 3550 feet, without a commercial showing.

Quisenberry's Hawkins 1, NW NW NW 32-1n-4e, Romine Township, Marion County, started deepening operations from 2948 feet, drilling at 3007 feet at last report. This wildcat had the Kinkaid at 1822 feet, the Menard at 2042 feet, Vienna at 2165 feet, Tar Springs sands from 2219 to 2255 feet, Glen Dean at 2263 feet, Hardinsburg at 2291 feet, Upper Golconda lime at 2368 feet, basal Golconda lime at 2455 feet, Cypress sand at 2503 feet, Paint Creek stray at 2597 feet, Bethel at 2636 feet, Renault at 2673 feet, Aux Vases at 2708 feet, Ste. Genevieve at 2775 feet, Rosiclare at 2796 feet and Fredonia at 2818 feet.

West of production in Centralia ¾ mile, Shell Oil Company spudded Dunbaf 1-B in the SE NW NW 11-1n-1w. It was drilling at 1125 feet.

Also in Marion County, W. F. Keeley's Mason 1, C NW SW NE 20-3n-1e, wildcat between Patoka and Sandoval, was drilling at 2910 feet with the Devonian expected between 3000 and 3100 feet.

A north outpost of Sandoval, Menhall et al's Robinson 1, SE N½ SE SW 4-2n-2e, flowed 30 barrels an hour through choke on initial test. On the Langenfeld lease, 400 feet north, a dry hole was drilled some months ago by Max Pray. On the south side of the pool, Kingwood Oil Company's Konrad 1, 30 feet from the north line and 50 feet from the west line NE SE 8-2n-1e, flowed 225 barrels in 1 hour and was shut in for lack of storage. The well had been cased to 3094 feet, below the pay, and gun perforated. Saturation was topped at 2985 feet.

A deep test in Eastern Fayette County failed when Gulf Refining Company's Smail 3, Section 25-6n-2e, filled up with water when plug was drilled. The test, which was taken on down to the Devonian after it failed to obtain production in the shallower formations productive in the Louden pool, had been drilled to 3375 feet and had set casing to 3300 feet.

An indicated southwest extension to Weiler sand production in St. James was given by Parrott et al's Guffey 1, NE NW NW 1-5n-2e, which reported sufficient oil in the hole to make a commercial well. It was cleaning out after a 20-quart shot. Two miles south, Powell & McClory's Wollin 1, NW NE 13-5n-2e, was drilling at 1500 feet and reportedly running low.

Indiana Activities

Fourth producing horizon is indicated for Griffin

Evansville, Ind.—The fourth producing formation for the Indiana side of the Griffin pool, Gibson County, was indicated by near completion of Lewis Production Company's well on the Cooper Estates tract, SE SE NE 12-3s-14w, in the Jett or Tar Springs sand. Production on the Indiana side had previously been confined to the Waltersburg, Cypress and McClosky formations, although the shallow Biehl sand is also producing in wells on the Illinois side of the Wabash River.

In this county, Paul Davis et al's Prudential Life Insurance Co. 1, wildcat in NW NW NW 36-1n-10w, was abandoned at 2000 feet after topping the Ste. Genevieve at 1846 feet. E. M. Shirley's W. A. McRoberts 1, SW NW NE 7-1s-9w, Barton Township, was drilling at 300 feet. This test, offsetting production in the Pennsylvania and Chester series in the old Union pool, is being put down with cable tools to the Devonian, expected at about 3200 feet. It is about ¾ mile from the Pike County line and the same distance northeast of Mt. Olympus. Five miles to the northwest is the first Devonian test drilled in southwestern Indiana—Parshall-Graham's Maude Simpson 1, Johnson Township, Knox County. While abandoned as dry, the Maude

Indiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Gibson County—		
Thomas & Lacey, Cooper 4	440	2525
Morgan & Kernan, Kohlmeier 1	*	1038
Davis et al, Prudential 1	*	2000
Posey County—		
Rossi Drilling Co., Pendell 1	*	450
Vandenburg County—		
K. R. Bixby, Ziss 6	5	1235
Warrick County—		
L. T. Phillips, Phillips 2	*	2813

* Failures; † Junked; ¶ Million cu. ft. gas.

Kentucky Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Breckenridge County—		
Stewart Pet. Co., Fed. Land Bank 1	¶.10	370
Daviess County—		
Major Oil Co., Burns 1	150	1627
Daugherty et al, Leet 3	50	1207
Hancock County—		
Jack Cox, M. L. Smith 1	*	1224
Henderson County—		
Baker et al, Banks 1	*	2317
Ohio County—		
Jenkins et al, Lindley 1	*	1500

Ohio Completions

Ashland County—		
Roy Stewart, Stewart 3	¶	792
Athens County—		
Ross, Weimer & Ross, Ackley 6	*	520
Coshocton County—		
Pure Oil Co., Ashcraft 2	100	3178
Guernsey County—		
Jewell Co., Brambaugh 1	*	1371
Knox County—		
Ohio Fuel Gas Co., Butler 1	*	2962
Lawrence County—		
Ohio Fuel Gas Co., Suiter 1	¶.10	2834
Licking County—		
Moore & Murphy, Swisher 1	¶.50	2664
Peavy, Smith 1	*	596
Lorain County—		
W. J. Dempsey, Devham 1	¶2.10	2554
Morgan County—		
Bern O&G Co., Edgerton 5	¶.80	840
Muskingum County—		
Gas Prod. Co. of Ohio, Luman 1	15	4325
Stark County—		
White & Lyons, J. Deetz 2	¶.32	4265
Washington County—		
Eivers et al, D. Williams 1	2	1557
Hall & Henning, J. Graham 3	2	1575
Fairfield Gas Co., Totman 1	¶.10	1666

New York Completions

Allegany County—		
H. W. Patterson, Betsey Clark farm, Scio	4	876
Betsey Clark farm, Scio	5	890
Bradford Prod. Corp., Willets farm, Genesee	7	1409
Hugnes Bros., Taft farm, Genesee	5	1359
C. H. Lavens Est. et al, Fee farm, Genesee	3	1325
Dermitt & Shaner, Swarthout farm, Bolivar	4	1339
DeFusto & Sawyer, Davidson farm, Bolivar	7	1324
Allegany: Water Intake Wells		
H. W. Patterson et al, Coyle farm, Scio	...	906
Coyle farm, Scio	...	894
Coyle farm, Scio	...	881
Karl-Weller Oil Co., J. N. Karl farm, Genesee	...	1322
Cam Oil Co., Peavy farm, Genesee	...	1339
Sloan & Zook, McDivitt farm, Bolivar	...	1065
McDivitt farm, Bolivar	...	1058
George Oil Co., Scott farm, Alma	...	1388
H. W. Patterson et al, Fuller farm, Scio	...	836
Fuller farm, Scio	...	824
Bliven Hill Oil Co., Norton farm, Scio	...	918

Pennsylvania Completions

Bradford District		
Messer Oil Corp., Redfield	3	....
Ryder Scott Co., Fee	4	....
McCaffery & Krampf, McCaffery	½	....
D. W. Daly No. 2, Bing 369	1	....
T. H. Givan, Bing 317-3122-27	1	....
Hillside Oil Co., Smith	1	....
Forest Petroleum Corp.	1	....
Niagara Oil Corp., 2 wells	2	....
Bradford Transit Co., 12 wells	12	....
Bradford: Water Intake Wells		
Grant & Mohan Oil Co., No. 3, Bing 484-5	...	....
Forest Oil Corp.	...	....
Forest Petroleum Corp.	...	....
Niagara Oil Corp.	...	....
Butler-Armstrong District		
Smith & Michel Oil Co., Michel Bros.	¶	....
McCandless Oil Co., Dr. Beatty	¼	....
Middle District		
S. R. Lewis et al, Frank Lechner	*	....
J. B. Hadden, Lot 2	¼	....
S. E. Capp, Lester	¼	....
New York-Pennsylvania: Gas Field		
New York State Natural Gas Co., John Hollis	¶	....

* Failures; † Junked; ¶ Million cu. ft. gas.

Simpson wildcat had a show of oil in the Devonian.

Near the shallow sand producing Haines & Thomas' Seifert 1, southeastern Posey County, John Lindas was moving in materials for Walter Seifert 1, 200 feet from the south line and 200 feet east line, NE SE SW 19-6s-12w.

In the middle of the Ohio River, on the north end of the Towhead Island, Yandell Rogers were moving in materials for W. J. Harris 1. The acreage is held by Ansel Douglas, Jasper Whipple, C. N. Garrett and J. F. Arhelger.

Kentucky Fields

Baker begins deepening Henderson County test

Owensboro, Ky.—Guss Baker, Jr.'s Fulton & Yates 1, 1400 feet from the north line and 900 feet from the east line, Section 4-P-26, Henderson County, started deepening from 1050 feet last week. It had a hole full of water at 1100 feet. The wildcat had formerly been listed as George Grimm's Fulton 1.

Sun Oil Company was drilling below surface pipe at its Trigg 2, in the Corydon section. The well is 600 feet northwest of this company's Trigg 1, and H. & H. Drilling Company is doing the work.

Three miles northeast of Elkton, L. O. Bradford's Randolf Hadden 1, was abandoned at 1675 feet. B. A. Eubanks located B. M. Scott 1 a mile east of Elkton.

C. L. Twisler's Robert Schroader 1, 450 feet from the north line and 2710 feet from the east line, Section 3-L-33, was a new Ohio County wildcat start, one of few this year. It was drilling below surface casing.

Four other Kentucky wildcats were started last week, scattered over as many counties: In Breckenridge County, Chas. Stewart's A. D. Howard 1, 760 feeet from the north line and 610 feet from the east line, Section 18-O-36, was drilling at 160 feet after topping the Glen Dean at 115 feet; in Daviess County, H. C. Farmer et al's P. Moorman 1, 1001 feet from the east line and 1540 feet from the south line, Section 23-N-29, was drilling at 360 feet; in Logan County, A. A. Peard's C. N. Darden 1, 760 feet from the south line and 4199 feet from the east line, Section 13-E-31, was fishing at 200 feet; and in McLean County, Mocarz Oil Co.'s L. S. Howard 1, 2610 feet from the east line and 3950 feet from the south line, Section 21-N-25, was spudded.

West Virginia Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Cabel County—		
Fourpole Gas Co., Toppins 1	*	3308
Calhoun County—		
Southeastern Gas Co., H. Shock 1.	¶.02	2030
B. B. Shimer, D. Freed 1	5	....
Clay County—		
Elk River Gas Co., Thompson 3..	¶.28	2303
Kanawha County—		
United Fuel Gas Co., Tolley 1	¶10.36	4845
Lincoln County—		
Bradyville Gas Co., Sweetland 1..	¶.42	3478
Federal Gas Corp., Tudor 5	¶.29	3725
Logan County—		
W. Va. Gas Corp., Dingess Run 19	¶.42	5220
Pleasants County—		
Schulz Oil Co., Hammett 5	25	2047
Ritchie County—		
Oil & Gas Co., Wilson 1	¶.05	2000
Wood County—		
Gorrell & Athey Oil Co., Maidens 1	3	1320
Tri-County Prod. Co., McAtee 1	*	797

* Failures; † Junked; ¶ Million cu. ft. gas.

North Texas Fields

Hardeman County wildcat may cause deeper drilling

Wichita Falls.—A new depth record for North Texas drilling may result from nominal encouragement for production registered below the 7800-foot level by Amerada Petroleum Corporation's Rice 1, near NW SE NW W&NW Section 81, Block H, Hardeman County wildcat. The test was drilling in lime and chert at 7954 feet, and will likely continue to the Ellenberger. Samples in lower Pennsylvania series carried saturation at 7820-25 feet, 7840-45 feet and 7870-7925 feet.

Rice is on a 6000-acre geophysical prospect, and was originally scheduled to drill to 7800 feet.

New Shallow Pool

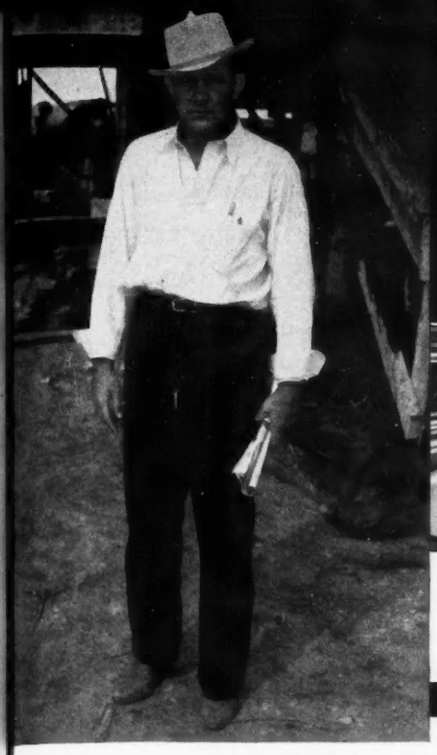
Wichita County has added another shallow oil pool on the strength of showings passed up by Strawn tests in the K-M-A district. Hanlon & Buchanan, Incorporated's C. F. Collins 1-A, R. Brown Survey, located on the northeast edge of the deep area, flowed by heads when sand at 1710-18 feet was tested through casing. It is rated at 150 barrels daily and offsets a recent 4000-foot completion. The shallow strike is 2 miles northeast of nearest production in the same horizon.

Development of the K-M-A deep area is being revived. An ample market is now available for this high gravity production. Competition is being felt by crude purchasers. This improved condition resulted in the Sinclair Prairie Oil Marketing

North Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk)—		
L. T. Burns et al, K. Ahrens 3, sec 127	520	4314
Chapman-McFarlin, Wilson 1-B, sec 26	656	4429
Wilson 2-B, sec 26	1328	3859
Continental, Wilson-McCrory 1, sec 28	1200	4360
Helmerich-Payne & Blackwell, Wilson 4, sec 25	736	4384
Archer County (Mankins)—		
British-American, Parkey 1, sec 11	800	4684
Archer County—		
Ligon et al, Moss 4-A, sec 1:	*	1778
Moss 7-B, sec 1	81	1292
Snoddy et al, M. Talbott 1, sec 2421	*	1430
Cooke County (Walnut Bend)—		
Cox & Hamon, K. Neu-Texaco 5-B	825	4929
Sinclair Prairie, McGeorge 1 (pb 5222 ft)	260	5438
Jack County—		
Gilmore et al, Bloodworth 8	*	513
Hanlon-Buchanan, Garrison 1, sec 3	101	2749
Montague County—		
Continental et al, Hott 21-B	41	2159
Falls Ref. Co. et al, Bouldin 9	12	793
Wichita County (K-M-A)—		
Cooper et al, Martin 1	*	4180
Farrell et al, Waggoner Bros. 5-H, lot 9	504	3797
Wichita County—		
Perkins-Cullum et al, Burnett-Gulf 2, sec 1	8	676
J. L. Swanner et al, Williams-Parker 6, blk 3	*	736
Wilbarger County—		
Lido Oil Co., Waggoner Est. 21-C, sec 52	760	3660
Pois & Schulz, B. D. Flanniken 1	1136	1905
Luther Webb et al, Waggoner Est. 1, sec 51	*	3032
Young County—		
Bryson O&G Co.-Carl Leidecker, J. W. Long 1	†	900
Holbrook & Wood et al, J. W. Cox 1, blk 8	*	568
Homestead O&G Co., Thedford 2	*	4327
Knox et al, Worsham 5, sec 3412	21	2711
Long et al, King-Wooten 1-B, sec 1969	408	4538
Trentman-Nunlee et al, Guinn 1-B, sec 1973	531	2761

* Failures; † Junked; ¶ Million cu. ft. gas.



28 Months of Service...153,000 Feet of Hole . . . No Replacements . . . That's LINK-BELT HYPER!

● When Johnnie Ferguson bought the first rig for Superior Drilling Company he specifiied Link-Belt 3-Bar Hyper Chain throughout. His selection was based on previous experience as drilling superintendent for a major operating company. His own statement (reproduced here) concerning the service received from this chain is better evidence of the value of his choice than any explanation we might make. This, however, is not an isolated case. Drilling contractors from coast to coast will tell you that such performance is not at all uncommon with Link-Belt 3-Bar Hyper Chain.

SUPERIOR DRILLING CO.
BOX NO 989
WHARTON TEXAS

September 21, 1939

The Link-Belt Company
517 Southern Standard Building
Houston, Texas

Gentlemen:

Replying to your recent letter with reference to the performance of the Link-Belt 3-Bar Hyper Chain used by us. We are pleased to submit the following information as requested by you:

We have drilled seventeen wells with a total footage of one hundred twenty five thousand feet and ten wells worked over, depth from 4700 to 7500 feet with this chain, which has been in service since May 1937. The Chain is still in use and apparently in good condition. We are using a high grade Motor Oil No. 50, as a lubricant.

Under the above conditions, we naturally feel that this chain has been very satisfactory.

Trusting that the above is the information you desire, we are

Yours very truly,
SUPERIOR DRILLING COMPANY
By. J. B. Ferguson Pres.

JBF/AD

Link-Belt rotary chains are packed in dust proof wooden boxes for convenience in shipping and handling in the field and to keep them clean and free from dirt, grit, abrasive matter, rust and corrosion. The boxes are labled for ready identification of chain. Below: One of the 17 locations mentioned in the accompanying letter. Upper left: J. B. Ferguson, President, Superior Drilling Company.

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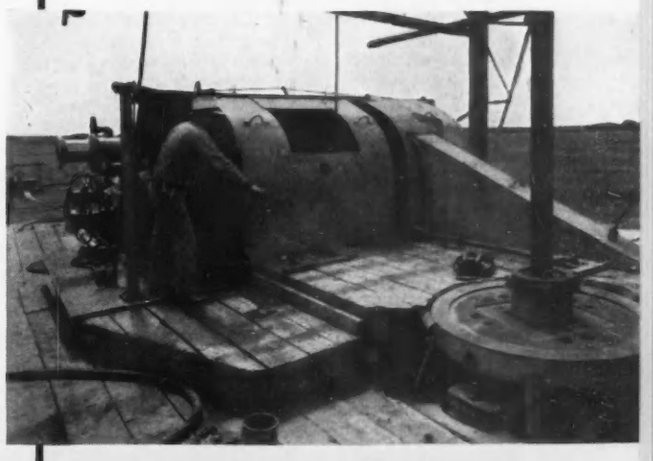

LINK-BELT CHAINS

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Company advancing its top posting 3 cents to $1.03 per barrel to equal that paid by other leading oil buyers in the field.

Tide Water Enters Field

The entry of Tide Water Associated Oil Company into the K-M-A area as an active unit through the purchase of King Oil Company's undivided half interest in 4 leases with 40 Strawn producers prorated to a base allowable of 1245 barrels daily will likely be followed by the drilling of 30 more wells. The former paid $1,500,000, involving $900,000 cash and the remainder payable from production. J. J. Perkins and L. H. Cullum plan to retain their half interest in the properties which embrace the Ferguson, Mangold, Charles Pettit and Pettit-State leases, aggregating 1164 acres. The tracts are in the Kadane sand area near the river.

Another deal involving K-M-A acreage was the sale of Melat and Graham's N. H. Martin 186-acre tract, Thomas Cooke and W. R. Eaves Survey, with 2 Strawn producers to the Granite Trust Company No. 2, Henderson, Texas, for a reported consideration of $175,000.

Western Clay County was assigned a new wildcat to be drilled by Continental Oil Company, Superior Oil Company of California and A. R. Dillard on the Roos land, W. Walker Survey, 4½ miles south of Jully and the same distance northwest of the Halsell 2-well pool. Continental assumes contract to drill a 5000-foot test as part consideration for its 1609-acre block and the others joined in forming a drilling unit. Shell Oil Company's Scaling 1, Block 87, J. H. Belcher Survey, 3¾ miles south of Burns pool, was drilling in lower Strawn at 4950 feet.

Satsuma rules

Operating rules for the Satsuma field, Harris County, will be considered at a hearing before the Texas Railroad Commission set for October 20. The hearing had been scheduled for October 5, but was postponed.

Texas Panhandle

Will develop gas reserves on Sherman County holdings

Amarillo, Texas. — Development of natural gas reserves on extensive acreage held in Sherman County is to be undertaken by L. R. Hagy-Harrington and Marsh. Their first project has been assigned to the Wayne Freeman land, C NW GH&H Section 46, Block 2. The partnership has been acquiring protection acreage for more than 2 years along a trend extending south from Kansas through the Oklahoma Panhandle and into Sherman County, Texas, to support a proposed natural gas trunk line to the Middlewest.

Texas Panhandle Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Carson County—		
Magnolia, Fee (tract No. 244) 61..	383	3026
Manston Oil Co., Sullivan 8.....	548	3253
Phillips, Benton 3	164	3317
Gray County—		
Phillips, McKinney 5	201	3245
Shell, Haggard 14	403	3284
Texas Co., J. E. Williams 22.....	928	2857
Hutchinson County—		
Phillips, Perkins 23, sec 16.....	134	2990
Wheeler County—		
Columbian Fuel Corp., Bentley 6..	30	2336
Magnolia, E. A. Worley 4.....	260	2419

* Failures; † Junked; ¶ Million cu. ft. gas.

West Texas Fields

Last quarter drilling will be heaviest of year.

Rig and lease equipment being bought in advance.

Midland, Texas.—Expanding market demand for West Texas crude and the prospects of a price increase provide an incentive for operators to enlarge upon their drilling programs. The volume of drilling projected for the last quarter in 1939 promises to surpass earlier quarters, and will be widely distributed among fields in Ector, Yoakum, Gaines, Crane, Pecos, Ward and Winkler counties. Ector County and the Yoakum County sector of the Wasson-Bennett district will continue to be the most active. The district has ample proved locations to sustain a large-scale development program over a period of years.

Purchase of casing, tubing and other oil well equipment in advance of requirements is being made by active operators as protection against rising prices on tubular goods, and also to assure prompt delivery. Al Broderick and George Calvert, pioneer operators in Ector County with 68 pumping and flowing wells, placed the largest single order for an independent the past week in buying casing, tubing, rods, complete pumping units, and 84-foot steel pumping derricks for 20 scheduled wells. These wells will be drilled on contract by George Livermore, Incorporated, using 3 or more rigs simultaneously. They will be assigned to acreage held by the partnership in Foster and North Cowden fields.

Test Delayed

Production test for Stanolind Oil & Gas Company's Blakeney 1-A, C NE SW T&P Section 28, Block 43-T-1-N, second deep Permian prospect for the west edge of the North Cowden field, has been delayed through having difficulties with tubing packer set because of carrying 1265 feet of open hole. Porous dolomite drilled with rotary at 5120-60 feet, with an elevation of 3085 feet, yielded 3 barrels of 36-gravity oil and 49 barrels of drilling water on first attempt to swab. Blakeney 1-A, 3 miles southeast of the field's single deep producer, logged first saturation 22 feet higher than the latter. This zone is the lower mid-Permian.

Western-Southern Oil Company, representing a group of Big Spring operators, will attempt to broaden the east extension sector of the North Cowden field with an outpost that will be ½ mile south and also east of production. The company has been assigned a lease on W½ T&P Section 6, Block 42, T-1-S, excepting the W½ SW, by R. W. Smith, fee owner, with the latter retaining ¼ over-riding royalty. If the acreage is productive 6 wells must be drilled at short intervals.

Gets Large Producer

The north portion of Estes field, Ward County, recorded the largest producer completed in the district in recent months when Gulf Oil Corporation's E. W. Estes 1, NW PSL Section 28, Block B-19, earned a potential rating of 4572 barrels after 460-quart nitro shot in upper pay at 2518-2689 feet. The well flowed 1031 barrels the first 3 hours and 572 barrels the second 3-hour period through casing, with 700,000 feet of gas. It was spudded September 15 and tested October 1. After the official gauge 5½-inch line was set at 2551-2680 feet, and 2-inch tubing at 2661 feet.

Magnolia Petroleum Company's Geo. Sealy 2-43, SW NE NE G&MMB&A Section 43, Block F, 1¾ miles south by east of Magnolia-Sealy pool, Ward County, yielded a small amount of free oil when tested in sandy-lime at 2702-08 feet. It will try for a lower pay, and was drilling at 2730 feet. The company's 24-section Sealy lease has afforded a comparatively small producing area in the northeast corner of the block, and future prospecting will be confined to the extreme east edge, adjoining Gulf Oil Corporation's G. W. O'Brien leasehold.

Reeves County listed a wildcat failure the past week, and is scheduled to add a Delaware project within 30 days in

West Central Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Brown County—		
Hart & Sons, Richmond 5-B.....	*	1360
Norman et al, Rice 2.....	*	987
Callahan County—		
Henderson et al, Jackson 1.....	*	875
Johnson et al, Harris 6	*	442
Murray et al, Evans 3	81	1757
Callahan County (Wildcat)—		
Dobbs et al, Finley 2, sec 75.....	*	2104
Coleman County—		
Cooper Oil Co., McCord 1.....	30	3979
Lone Star, Baker 1.....¶5.2		2301
States Oil Corp. et al, Stockard 4, sec 23	118	3629
Comanche County—		
Cawley et al, Anderson 2	3	606
Eastland County—		
Forbes et al, Daniels 1.....	*	480
McCulloch County—		
McMillen & Rominger, Jordt 1....	*	1840
Palo Pinto County—		
Hickok & H. Reynolds, Gauldin 1..	12	2425
Palo Pinto O&G Co., Strawn Coal 27	*	3342
Shackelford County—		
Algord Oil Co. et al, Swenson 3...2660		3187
Swenson 4 1275		3206
B. & F. Bonded Cotton Warehouse Co., Clark 1	12	621
Black et al, Diller 1.....	*	551
Butler-Horn & Duncan, Lee 1....	*	826
Danciger, McCown 6 2772		3196
Dean Bros. et al, Newell 1-D-114..	31	1442
Hammond, Inc., McKeever 3.....	907	3214
Lee & Key, Lee 6	20	1161
Owens-Snebold Oil Corp., Haterius 5 1520		3183
J. S. McKeever 5 1200		3198
W. H. McKeever 3 3000		3194
W. H. McKeever 4 1700		3192
Roeser-Pendleton-Continental, Cook 3-A-89	*	1606
Ungren-Frazier & Ambassador, McKeever 1 1025		3185
Valley Osage Oil Co., McKeever-Texaco 2 1880		3198
Shackelford County (Wildcat)—		
Fain-McGaha, Dawson-Conway 1..	37	1497
B. & F. Bonded Cotton Warehouse Co., E. Spell 1	5	622
Stephens County (Wildcat)—		
Wittmer O&G Prop.-Knight & Ewing, Loving 1 1200		3512

* Failures; † Junked; ¶ Million cu. ft. gas.

the east portion of the county where Roy Johnson and Russell have contracted to drill a 5000-foot test in PSL Section 21, Block C-7, 7 miles southeast of Pecos City. Forest Development Corporation's Scott 1, C SE H&GN Section 286, Block 13, located on a core-drilled structure in the south portion of the county, failed to respond to 170-quart nitro shot in upper Delaware at 4880-4950 feet. It was plugged back from water at 5333-36 feet to 4950 feet.

The Ordovician horizon in Big Lake, Reagan County, accounted for a substantial producer when Big Lake Oil Company's University 17-C, near NEc SW Section 25, Block 9, nearest extension sector, flowed 1175 barrels of 43-gravity oil after using 3000 gallons of acid. Production is from Ellenberger at 8125-8269 feet. Top of Simpson was called at 8095 feet, with an elevation of 2678 feet. More drilling will follow this attractive completion.

Water Table Established

The water table underlying the oil horizon in the east central portion of the Wasson-Bennet district was established at a higher level than expected through exploratory operations conducted by Shell Oil Company's Baumgart 8-C, SW SE NW Section 866, a production test at 5153 feet, with an elevation of 3583 feet, yielded a natural flow of 801 barrels oil initial. Another at 5212 feet, with tubing packer at 4608 feet, showed no water with a flow of 350 barrels oil in 14 hours. The well failed to flow, but swabbed ¾ barrel of fluid hourly, 30 percent water, on a 16-hour test at 5219 feet, with packer at 5145 feet. The hole has been plugged back to complete in the regular horizon. It is about 1 mile northeast of Humble Oil & Refining Company's Wooten 3, which was carried to 5346 feet and acidized for completion with water making its appearance later.

Complete northeast Nolan County's deep wildcat

Abilene, Texas.—Northeastern Nolan County's promising deep wildcat strike drilled by Green, Owens et al on the C. H. Tipton land, near SE NW SW T&P Section 43, Block 19, succeeded in cementing a string of 3-inch pipe at 5131 feet to complete in lower Pennsylvanian at 5140 feet. Prior to landing the small diameter pipe, the well yielded 100 barrels of 41-gravity oil, plus considerable water from above the pay, on a 31-hour swabbing test. This test was made with open hole below 4236 feet. Top of the Palo Pinto lime member of the Canyon series was logged at 4858 feet, with an elevation of 1975 feet.

Plymouth Oil Company's McClure 1, projected Ordovician test for Nolan County 2½ miles east by south of Roscoe, cemented a protection string of 10-inch at 4500 feet. It is slated to drill to 8000 feet.

W. I. Southern, Inc.'s Carlisle 2, 1800 feet northwest of the discovery pumper of Carlisle pool, Stonewall County, has deepened to 5223 feet, with the Ellenberger as its objective, after using formation seal at 5137-62 feet to protect the Palo Pinto lime producing horizon. This pool is the deepest in the general area.

Texas drilling shows still further decline

Drilling activity continued to decline in Texas last week with 173 permits approved by the Texas Railroad Commission, 11 less than were allowed the week before.

Three permits were granted to operators in the East Texas field, including one in Gregg, one in Rusk and one in Upshur County. Eight locations were reported from the remainder of the East Central Texas area.

North Texas led the state with 38 permits, including 12 in Wichita County, while one location was reported from the Panhandle in Hutchinson County.

The commission approved 33 locations in West Texas, and West Central Texas producers listed 24 locations. From the Gulf Coast section 31 permits were reported, while Southwest Texas operators were allowed to drill 35 new wells.

West Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Andrews County (Emma)—		
Harry Adams & Bradley, University-Superior 1	1296	4295
Andrews County (Fuhrman)—		
Gulf, Ford 5	310	4460
Crane County (Jordan)—		
Snowden-McSweeney Co., University 6	375	3582
Crane County (Sand Hills)—		
Humble, J. B. Tubb 30	1741	4420
Crockett County (Crockett)—		
Gilcrease Oil Co., University-Humble 2-14	15	1566
Ector County (Foster)—		
Arrow Drl. Co., Foster 16	1499	4310
Stanolind, E. F. Cowden 18-A	533	4140
E. F. Cowden 24-A	1283	4165
E. F. Cowden 25-A	587	4160
Sunray Oil Co.-York & Harper, Witcher 2-C	2053	4167
York & Harper-Sloan-Zook Co., Foster 5-B	408	4287
Foster 7-D, sec 8	1520	4295
Ector County (Goldsmith)—		
Gulf, Goldsmith 220	1056	4210
Gaines County (Wasson)—		
Continental, Wasson 5-51	270	4990
Gaines County (Seminole)—		
Ohio, Gibbs 1	1373	5268
Jones County—		
Condor Pet. Co., H. Sayles 24	367	1987
Consolidated et al, Cox-Hamilton 1-A	2220	3275
Fields et al, Barnard 2	4320	3260
Gwynn & Overby, A. L. Adams 2	150	1914
Iron Mt. Oil Co.-Humble, Cockrell 2	*	3333
W. H. Peckham et al, Brock 6	389	1915
Brock 7	456	1908
J. M. Radford Grocery Co., Fee 1	504	3284
Ungren-Frazier et al, Dorsey 6-A	74	2053
Jones County (Wildcats)—		
Jones-Stasney & Byron, J. Muehlstein 1	*	3550
N. H. Martin & Son, Wirt Davis 1	35	1721
Pecos County (Masterson)—		
Culbertson & Irwin, Inc., et al, Fromme 3	39	1440
Pecos County (Netterville)—		
Trees et al, Fee 1, sec 63	5	2359
Pecos County (Pecos Valley)—		
Kone Prod. Co., Pecos Valley 13	197	1636
Mid-Continent, Jasper Co., Realty 9	118	1685
Pecos County (Shearer)—		
Oliver & Cowden, Masterson 3	†	1501
Rush et al, Masterson 1	*	1534
Pecos County (Tobarg)—		
Cardinal Oil Co., Tippett-Kirby 54-E	92	423
Reeves County (Wildcat)—		
Forest Dev. Corp. et al, I. E. Scott 1	*	5336
Scurry County (Sharon)—		
Dobson & Robinson, McClure 1	123	2438
Magnolia, R. O. McClure 1	113	2525
Ordovician Oil Co. (was Teas), Thompson 3	69	2455
Tom Green County (Wildcat)—		
Ringle et al, L. Seal 1	*	1625
Upton County (McCamey)—		
Basin Oil Prop., Baker-Gulf 12-B	652	2318
Winkler County (Keystone)—		
M. J. Bashara & Sons, Fee 3	175	3223
Winkler County (Hendrick)—		
Bates-Reading Oil Corp., Cowden-Shell 1-C	330	2993
Ward County—		
Gulf, E. W. Estes 123	4572	2689
Yoakum County (Bennett)—		
Magnolia, Bennett 8	426	5243
H. Mahoney 1	781	5220
Yoakum County (Wasson)—		
Aloco Oil Co., Miller-Texaco 6-A	856	5158
Basin States Oil Co., Hague-Honolulu 2	940	5180
Honolulu Oil Corp., Carter-Wilder 1-804	1285	5155
Humble, Wooten 19	986	5130
Magnolia, Kendrick 2-867	1552	5120
Milhoan Prod. Co. Willard 3	1358	5192
Shell, Baumgart 10-C	994	5160
Sinclair Prairie, Kendrick 3-A	1908	5163
Yoakum County (Wildcat)—		
F. M. Allison Prod. Co. et al, Bush 1	*	5462

* Failures; † Junked; ¶ Million cu. ft. gas.

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Commission fixes new line between Jordan and Waddell

The Texas Railroad Commission has issued a new order establishing the boundary line between the Jordan and Waddell fields, in Crane and Ector counties. The new line forms the southern boundary of the Jordan field and the northern boundary of the Waddell field.

The boundary is " . . . a line beginning at the southwest corner of Univ. Blk. 35 in Crane County, Texas; thence east along the south lines of Secs. 14 and 13 in said Univ. Blk. 35 to the southwest corner of said Sec. 13; thence, north along the east line of said Sec. 13 to a point in the center of the east line of the southeast quarter of said Sec. 13; thence east to a point in the center of the south line of the north half of the southwest quarter of Sec. 12, Univ. Blk. 35; thence northeast to the northeast corner of the southwest quarter of said Sec. 12; thence, northeast to the center of the north line of the northeast quarter of said Sec. 12."

Magnet rules revised

The Texas Railroad Commission has issued revised rules for the Magnet field in Wharton County providing that proration is to be on acreage and per well, with 50 percent allocated on each factor. Twenty acres may be assigned to each well for proration purposes, although spacing in the field is on a 10-acre basis.

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Cotton Valley, Louisiana
Gem Hotel
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Lafayette, Louisiana
220 Simco Street
Phone 2060

Houma, Louisiana
513 School Street
Phone 1252

East Texas Fields

East Texas field enters tenth year of production

Kilgore.—East Texas field entered its tenth year as a source of high gravity oil production on October 3. It has to its credit a greater assortment of records than any single oil area and retains its position as a potent factor in domestic oil circles, due to the volume of oil remaining in the 133,000-acre reservoir.

The anniversary date was accompanied by renewed court attack on the method of prorating the 26,057 wells listed on the production schedule.

Drilling has been conducted without interruption during the 9 years that have elapsed since C. M. (Dad) Joiner succeeded in making a commercial oil well from his third attempt on the same tract. The discovery indicated production from the Woodbine when a formation tester was used September 5, 1930, but the completion was delayed until the following month because of difficulty in financing a string of casing. Currently the field has 23 operations, including 11 drilling tests.

6000-foot test planned for Panola County block

Shreveport. — Lide and Greer of Dallas have assembled a block of approximately 2200 acres in the J. Powers, M. Smith and J. Hughes Surveys for a proposed 6000 foot wildcat test in Panola County, Texas, west of Carthage. The test is to spud by December 1.

Hearing on Long Lake repressuring continuance

At a hearing set for October 13, the Texas Railroad Commission will hear evidence to determine whether the order permitting operation of the Tide Water Associated Oil Company's recycling plant in the Long Lake field should be amended or rescinded.

Hull hearing

Revision of the method of allocation in the Old Hull field, Liberty County, will be considered by the Texas Railroad Commission at a hearing scheduled October 12.

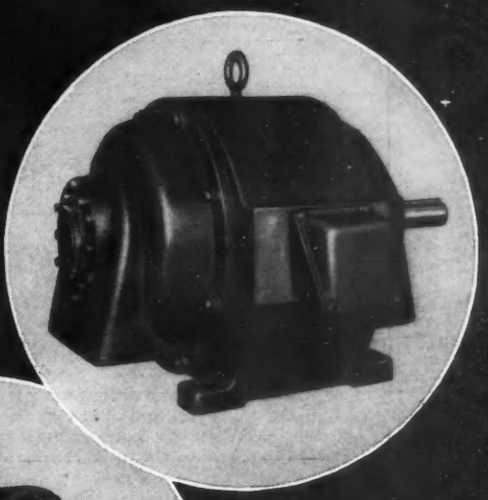
East Texas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Joiner Area—		
Magnolia, Mayfield-Alford 7 (30½-ac)	240	3680
Longview Area—		
McDonald & Campbell, Harrison 5 (15-ac)	3600	3538
Stanolind-Tide Water, Akin 19 (80-ac)	5000	3621
Anderson County (Long Lake)—		
Tide Water Associated-Seaboard, Shaw-Cern 12	¶1115	5334
Franklin County (Talco)—		
Humble, Penn-Humble 11 (700-ac)	394	4291
Freestone County (Wortham)—		
McNeil Pet. Co., W. E. Smith 1	28	2989
Limestone County (Wildcat)—		
J. R. Bunn Drl. Co., F. Winmill 1	*	2493
Navarro County (Corsicana-Powell)—		
Guy Sitton et al, Fleming 1	10	1629
Marion County (Jefferson-Rodessa)—		
Gulf, Ray 2, Jno. Hanks sur	236	6008

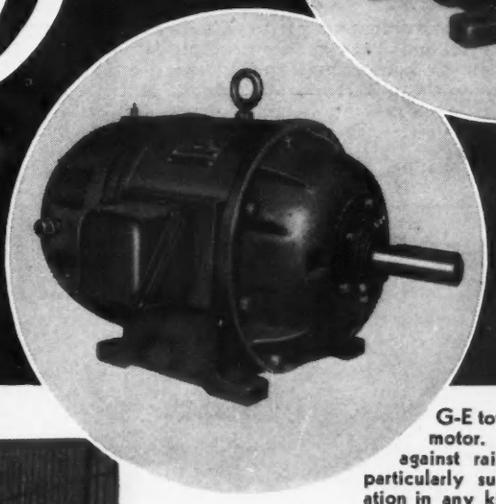
*Failures; †Junked; ¶Million cu. ft. gas.

Long Life

That's Why Electric Drive Cuts Depreciation Expense

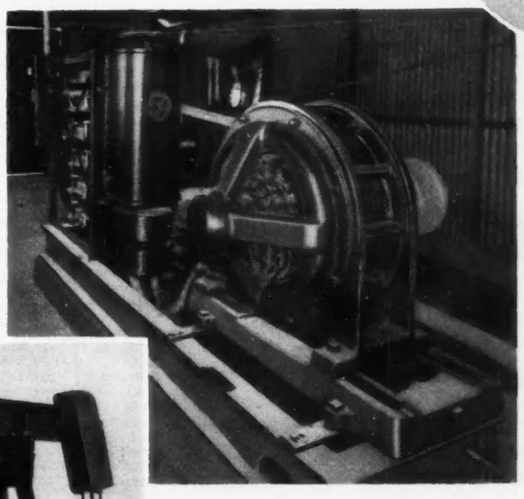


G-E splashproof motor. This motor meets all the requirements of a pumping-rig drive in areas where medium weather conditions are encountered

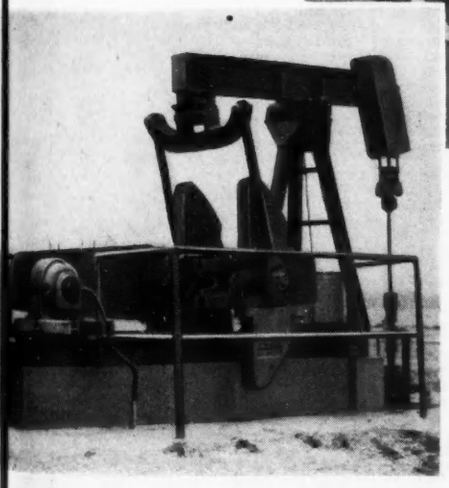


G-E totally enclosed, fan-cooled motor. This motor is protected against rain, dust, and dirt and is particularly suited for long-time operation in any kind of weather. Like the G-E splashproof motor, it can be furnished in double- or triple-rated design to handle a variety of pumping loads

This G-E 2-speed oil-well motor has been in service in the California oil fields for more than 22 years



This G-E 5-hp well-pumping motor was recently installed in an Illinois oil field. It, too, can be relied upon for years of dependable operation



SIMPLE arithmetic is all you need to figure the savings in depreciation expense that electric drive for oil-well pumping makes possible. Electric drive means long-time service—and, naturally, annual depreciation can't help being low.

Here, for example, are two G-E motors, especially suited for oil-well pumping, on which you can depend for long life. They have practically nothing to wear out—there are no wearing parts except easily replaced bearings. Furthermore, the insulating varnish used on the windings is highly resistant to moisture, oil, and abrasion.

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Long life is only one advantage of electric drive for oil-well pumping. Note the others listed on the left. Our nearest representative will be glad to talk them over with you at your convenience. General Electric, Schenectady, New York.

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1. Low first cost
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011-537

Southwest Texas Fields

New sands recorded for Ben Bolt and Angelita.

Victoria and Goliad counties get new gas pools.

Corpus Christi.—Development of oil production in a second zone at Ben Bolt in Jim Wells County, completion of Catahoula gas wells in Victoria and Goliad counties to open new pools, and testing of wildcats in Nueces and San Patricio counties marked activity in the lower Gulf Coast during the week. They are tending to maintain a high discovery ratio for this trend.

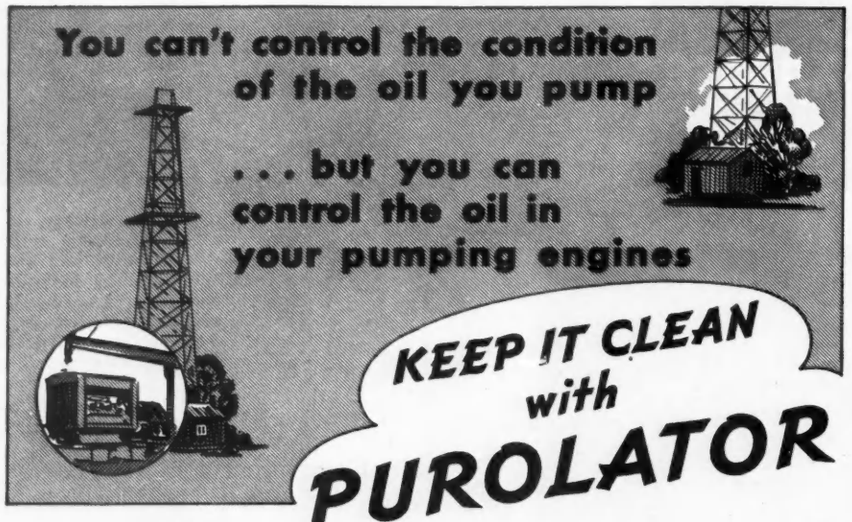
Seaboard Oil Corporation of Delaware had completed a squeeze job in M. C. Smith 1, San Patricio County, and was preparing to perforate in a higher sand. The well, in the Juan Hart Grant 2 miles west of Odem, had been drilled to 7295 feet before plugging back. Through perforations at 7048-53 feet, the test recovered 400 feet of brackish water, not salt, with an oil taste under 500 pounds working pressure and 3150 pounds bottom hole pressure in 4 minutes. These perforations were squeezed and new perforations made 7058-60 feet, from whence the test flowed salt water with a skum of oil in 17 minutes.

In Angelita field to the south, but still in San Patricio County, Wellington Oil Company of Delaware opened a new deep pay as J. F. Welder Heirs 6, 2388 feet west of the discovery, was pumping several barrels of crude per hour through perforations at 6225-35 feet.

Preparing to Set

Premont Petroleum Company is preparing to set casing, according to reports, in F. Langham 1, wildcat in Section 25, 1½ miles south of Agua Dulce Townsite in Nueces County. It is at 7145 feet, where it has made attempts to blow out. The gas apparently is coming from upper sands.

On a drill-stem test at 5393-5417 feet, H. J. Mosser 2, Block 2, Whitman subdivision, flowed pipe line oil under 175 pounds working pressure and 2150 pounds bottom-hole pressure in 15 minutes. Casing was landed on bottom at 5450 feet, the well to be completed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These Purolators are recommended for engines with horse-power as follows:

	As auxiliary to metal element Purolator		*As the only lube oil filter*	
	Gasoline or gas engines	Diesel engines	Gasoline or gas engines	Diesel engines
N-3000	150-225 H.P.	80-160 H.P.	100-200 H.P.	50-110 H.P.
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The G-49J Purolator has a head of cast iron and case of drawn steel. The element is of the metal cleaning type. Lugs drilled and tapped for mounting bolt holes are cast as an integral part of the head for mounting against a vertical surface. Holes are on both front and rear of the head so that the filter may be mounted for either standard or reversed connections. This filter can be used in conjunction with the N-3000 on Diesel engines.

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South Texas Completions

CORPUS CHRISTI DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Brooks County—		
Humble, McGill 28 (Kelsey)	500	4753
Calhoun County—		
Blanco & Buchanan, Dunwoody 15 (Heyser)	650	5571
Colorado County—		
Strake, Burford 1 (WC), E. Tumlison sur	*	7548
Goliad County—		
D. C. Matthews and Shell Oil Co., Swickheimer 1, blk 20, CIC sur, discovery Fannin field	¶10	3512
Jackson County—		
W. S. Boyle, Combs 2 (Mauritz)	1000	5648
L. Glasscock, Drummond 6 (West)	500	5586
Humble, Kubecka 5 (Cordele)	650	2700
Toney 2 (West)	750	5530
Jim Wells County—		
Graham & Mosser, Bankers 1-M (E. Alice)	350	5327
Live Oak County—		
H. F. Baker, W. Rossi 2 (WC), B. Haughey sur	*	1925
Coquat, Holland & Smith, Bonham (Gayle) 5 (White Creek)	30	1436
Smith & Story, Inc., J. T. Lyne 1 (WC), Cook sur No. 171	*	3010
Nueces County—		
Agua Dulce, Talbert 6 (Agua Dulce)	¶10 & 100	5035
Andrade, Bock 2 (Minnie Bock)	400	3828
Southern Minerals, King A-6 (Richard King)	500	5380
E. Walling, Isensee 1 (Saxet)	¶10 & 150	5795
Western Gulf, Isensee 9 (Saxet)	¶10 & 150	5850
Refugio County—		
Norsworthy, Wood 1 (WC), Sinnott sur	*	6508
Quintana, Williams 17-A (Tomoconnor)	1750	5937
San Patricio County—		
Allen & Morris, Baldwin 2 (W. White Point)	500	5642
Plymouth, Sparks 6 (E. White Point)	500	5675
Sutton 1 (E. White Point)	500	5663
Republic Natural Gas Co., L. Phillips 1 (WC), sec 60, 1 mile ne E. White Point, pb and perf 4036-46	¶20	6007
The Texas Co., H. A. Speer 1 (E. White Point)	500	5680
Victoria County—		
Houston Oil Co., J. Hornstein 1, blk 43, McKinnon sub, discovery of Cologne field	¶20	3041
Stanolind, Vandeberg & Hill 7 (E. Placedo)	50	6379
Trinity Drillers, Inc., B. Vogt 1 (Victoria)	*	2707

* Failures; † Junked; ¶ Million cu. ft. gas.

through perforations. This test is located in the north end of the Ben Bolt field of Jim Wells County and is the first to establish crude production in a heretofore gas producing zone.

Magnolia Petroleum Company's Dale O. Maun 1, discovery well of a sand at 7221-32 feet in LaGloria field of Jim Wells County, has been given a potential test. It is rated at 171.62 barrels per day jetting through open 2-inch tubing. There are 3 rigs running in the area at this time, all being outposts trying to line out the several crude and distillate zones. The company's Stolze 1, found gas and distillate sands at 5332-43, 5567-82, 5806-10 and 5825-44 feet, widening these pays to the north.

One mile southeast of the only producer in Wade City field, Jim Wells County, Rodney Delange and Earl Rowe's M. McNeill 1, Agua Dulce Grant, was coring ahead after recovering 4000 feet of salt water on drill-stem test at 4810-23 feet. The test showed 450 pounds working pressure and 1700 pounds bottom-hole pressure in 4½ minutes on a test at 4762-80 feet.

Good Well in Mauritz

Jackson County's Mauritz field came back into the limelight as a new test showed for an excellent producer. W. Stewart Boyle's Combs 2, on a Shell Oil Company farmout, flowed at the rate of 550 barrels of 33-gravity pipe line oil per day through ¼-inch choke under pressures of 900 pounds on tubing and 1000 pounds on casing. It found the sand at 5610-48 feet and was completed by setting liner and screen below casing landed at 5610 feet. The several other tests in the area failed to

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Bastrop County—		
Kirby Pet. Co., Meeks 1 (WC), Garretson sur	*	2850
Caldwell County—		
Wiegand Bros., Briscoe 8-A (Salt Flats)	60	2717
Guadalupe County—		
Bluhawk, Fee 3-A (Darst Creek)	135	2586
Humble, Denman 26-A (Darst Creek)	135	2610
Denman 27-A (Darst Creek)	126	2625
Dowdy A-4 (Darst Creek)	85	2540
Travis County—		
Williams & Vick, Montpelier 2 (WC), C. Barker sur	*	845
Zavalla County—		
H. F. Wilcox O&G Co., Kincaid 1 (WC), sur 374½	*	3750

LAREDO DISTRICT

Duval County—		
Circle, Mew 2 (Fitzsimmons)	250	4255
Cunningham, Lopez 1 (WC), sur No. 14	*	6505
Government Wells, Lundell 33 (Lundell)	73	1547
Hiawatha, Denman 1 (Longhorn)	500	4879
Magnolia, Well 45 (Hoffman)	78	2842
Rio Bravo, Peters 3-C, (Rancho Solo)	*	1817
South Coast & Roeser & Pendleton, Garcia 1 (WC), sec 311	*	5306
The Texas Co., Duval 28 (297) (SRC)	64	1039
Duval 29 (297) (SRC)	62	1030
Jim Hogg County—		
W. L. Goldston, Canales 2 (WC), Ynojosa gr	*	5803
Henshaw Bros., Trevino 1-A (Colorado)	350	3047
Humble, Bass 16 (Kelsey)	400	4747
Webb County—		
Harry Poe Oil Co., Adami 1 (Adami)	60	978
V. G. Schimmel, Benavides 1-B (West Cole)	65	2378
Louis Yeager, Fee 1 (Adami)	12	974
Zapata County—		
Camp, Hinnant-Mann 1 (WC), sur 251	*	1730

* Failures; † Junked; ¶ Million cu. ft. gas.

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find good sand and were poor producers.

Continued expansion of the 5100- and 5500-foot sands in the West Ranch-Vanderbilt area of Jackson County holds considerable interest as this field is being enlarged into one of the coast's most prolific reserves.

To Gauge Discovery

A gauge is expected to be made immediately in Houston Oil Company's Jacob Hornstein 1, discovery well of Cologne field, Victoria County. The well, located in Block 43 of McKinton Subdivision of Fleming Ranch, flowed several million cubic feet of gas through ⅜-inch choke under 1175 pounds equalized pressure after perforations were made at 2860-70 feet. Another well had been started on Block 42 in an effort to line out the Catahoula prospect.

Duke C. Matthews and John G. Mayo have commenced another test on the Fannin block in Goliad County, where a Catahoula gas field has been opened. The new well will be J. G. Swickheimer 2, SWc Block 30. The test is about 1 mile from Swickheimer 1, completed through perforations at 2840-64 feet as a gas well several days ago.

One mile northeast of the East White field of San Patricio County, Republic Natural Gas Company has completed L. Phillips 1 as a gas well with 1450 pounds tubing and 1650 pounds casing pressures.

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Sejita test showing may indicate distillate field

Laredo.—Sejita, one of Duval County's hottest geophysical prospects, has paid off with at least a wet gas well, opening the deepest production in the Mirando district. At the same time, it paves the way to an intensive drilling program through the newly developed Yegua trend extending along the eastern side of Duval County.

Standard Oil Company of Texas had squeezed perforations and was preparing to test at approximately 5400 feet in Jack Casey 1, Block 26, Section 4, Addition 3 of the Copita Farm and Garden Tracts, about 7 miles southeast of Realitos. The well had been carried to 6746 feet, 7-inch casing landed at 6722 feet and perforated at 6590-6610 feet with 100 shots. At this level, a drill stem test recovered 700 feet of mud with distillate odor in nine minutes, the test being through ¼-inch chokes, top and bottom. A 1000-pound pressure gauge broke at the end of 2 minutes due to the high gas pressure.

The potential discovery well found Yegua sand at 6588-6611 feet. Jackson sands, corresponding to the Government Wells group, were encountered at 5335-45 feet and 5374-5406 feet, both carrying gas and oil showings.

This test is located about 1¾ miles northwest of another test drilled last year on this prospect by Standard Oil Company of Texas and Speed Drilling Company. On the basis of a seismograph survey prior to the drilling of the first test, royalty and lease prices rose to probably the highest level for a wildcat play ever experienced in Duval County.

Atlantic plans 8000-foot Sparta-Wilcox wildcat

San Antonio.—South Texas Sparta-Wilcox trend gained another operation with Atlantic Refining Company staking location for an 8000-foot operation on a 35,000-acre block on the DeWitt-Victoria County line centering near Myersville and Burns Station. The test is expected to be started in a few weeks.

The well will be Pearl Conwell 1, located 1100 feet from the southeast line and 1200 feet from the northeast line of the 120.86-acre tract in Block 3 of the Charles Lockhart Survey. Ward Kelley turned 12,000 acres of this block to the concern and the remainder was assembled by the company.

Tide Water Associated Oil Company et al's 9000-foot Sparta-Wilcox test on the Bruni block in Webb County had passed through the Queen City section and was drilling ahead below 6725 feet. It is reportedly logging satisfactorily.

Following across the trend, Anderson Prichard Oil Corporation and Mills Bennett et al's Robinson 1 at West Tuleta in Bee County was rigging up on an 8400-foot project. Marshall Purvis had passed 7100 feet in his well on the Afflerbach tract, 4 miles southeast of Yorktown in DeWitt County.

Wellington Oil Company spudded a test being drilled jointly with Jack W. Frazier on the Fordtran prospect. It is J. W. Booth 1, Section 10. The well was drilling below surface casing at 1540 feet late in the week.

Texas Gulf Coast Fields

Anchor and Chocolate Bayou to be developed rapidly. To try for Wilcox oil northeast of Raccoon Bend.

Houston.—It appears that recently discovered Anchor and Chocolate Bayou fields, Brazoria County, will be developed at a rapid pace. Last week 2 new locations were made at Anchor and 1 at Chocolate Bayou. Anchor may receive more attention because of performance of the discovery well.

Glenn H. McCarthy's Carr 1, discovery well at Anchor, made 85 barrels of 52 gravity distillate in 12 hours through ¼-inch choke on a test last week. Tubing pressure was 3100 pounds and casing was sealed. The estimated gas/oil ratio was 15,000 to 1. It was completed from perforations at 10,460 to 10,466 feet, in Frio formation. McCarthy's Houston Farms Development 1, Chocolate Bayou discovery well, was dead and cement has been squeezed through perforations for another test. It came in making about 25 barrels of 51 gravity distillate daily from Frio sands at 9875 feet.

The discoverer of the two fields is now drilling on Houston Farms Development Company 2 at Chocolate Bayou and has made location for Andrau 1, 467 feet out of the east corner of Sun Oil Company's 265-acre tract in the H.T.&B. Survey, No. 5. At Anchor he has announced location for Salman & Momma 1, 655 feet west of the east line and 665 feet north of the south line of the east 40-acre tract of a 153.5-acre tract in the Geo. Robinson Survey, Abstract 126.

Humble Oil & Refining Company has made location for Mettler 1, 6300 feet northeast of the discovery well at Anchor. It is 660 feet south and 660 feet east of the northwest corner of a 164.97-acre tract in the J. J. de Valderas Survey.

About one mile northwest of production at Raccoon Bend, Austin County, D. M. Hills has made location for a Wilcox test on the Max Rader lands. Should this well pick up oil sands in the Wilcox formation it will open a new pay horizon for the area and revive drilling for the district. The regular deep producing horizon at Raccoon Bend, where Humble Oil & Refining Company is the sole operator, is found around 4100 feet. Hills' Rader 1 is 336 feet from the west line and 2376 feet from the north line of a 615-acre tract in the W. Smithers Survey. It will be drilled, according to reports, to 8000 feet, but it is expected that the Wilcox formation will be picked up between 7000 and 7500 feet.

Anahuac Extended

Anahuac, Chambers County, was extended 3500 feet southeast last week when Humble Oil & Refining Company completed Middleton 43 in a new Frio sand from 12 perforations at 7215 to 7220 feet. The well came in flowing 27 barrels of pipe line oil per hour through ¼-inch choke. Middleton 43 was drilled to 7334 feet and plugged back and 5½-inch casing was set at 7270 feet. The deepest wells completed at Anahuac have been around 7145 feet. Completion of Middleton 43 adds several hundred productive acres to the field.

On the north side of League City, Galveston County, Phillips Petroleum Company has completed Dugan 1 in a new producing sand. Last week the well was perforated with 10 shots from 9926 to 9929 feet and came in flowing 110 barrels of oil and 42 barrels of salt water daily through a ¼-inch choke. Tubing pressure was 150 pounds and casing pressure was 1050 pounds. Phillips' Wimhurst 1, northwest of production, drilled to 10,690 feet, then blew out and stuck the drill pipe.

Columbus Wildcat Quits

Strake Petroleum Corporation's Burford Estate 1 in the Columbus area, E. Tumlinson Survey, Colorado County, was disappointing last week when it was abandoned at 7582 feet. The well attracted considerable attention while drilling and some reports state that it tried to blow out around 4200 feet.

Humble Oil & Refining Company abandoned a second well on the Lane City prospect, Wharton County, last week. Rogers 1, D. D. D. Baker Survey, was plugged at 8252 feet.

About ½ mile southwest of the discovery well at Martha, Liberty County, Stanolind Oil & Gas Company has announced location for R. G. Palmer 1, 695 feet east and 314 feet south of the northwest corner of a 40-acre tract in the I.&G.N. No. 7 Survey.

HUBERT GUYOD, for several years with Schlumberger Well Surveying Corporation, Houston, has resigned to become a consultant on interpretation of electric logging and electrical surface data.

Texas Gulf Coast Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Anahuac—		
Humble, Broussard 12	31	7020
Middleton 43	648	7220
Barbers Hill—		
Texas Gulf, Winfree 1	21	5532
Boling—		
Mackhank Oil Co., Farmer C-3 (wo)	120	4525
Clear Lake—		
Humble, Humble West Fee C-17	240	5909
Clinton—		
International Pet. Corp., Oates 1	¶1½	3240
Esperson—		
Joe Massart, Kay 1	*	4280
Fairbanks—		
Amerada-Stanolind, Mills 13	113	6857
Stanolind, Jahnke 8	151	6840
Friendswood—		
Humble, Beamer 30	601	6044
Hastings—		
Stanolind, Ware 5	542	6080
League City—		
Phillips, Dugan 1	110	9929
Lovell Lake—		
Humble, Broussard Trust 9	184	7790
Labelle—		
Sun, Broussard Hebert 5	*	9504
Pickett Ridge—		
J. B. Ferguson, Pierce Estate 3	90	4684
Segno—		
Gulf, Wing 20	603	8117
Thompson—		
J. A. Jones, Taylor 1	*	7947
H. N. Naylor, Booth 6-B	180	7930
Booth B-2	890	7790
West Beaumont—		
Stanolind, Keith & Dowlin 8	204	5385
Withers—		
R. Y. Smith, Helamicek 1	1	5600
Texas Co., Broussard 15	114	5545
Pierce Estate B-38	103	5665
Thompson A-13	86	5544
Colorado County—		
Strake, Burford Estate 1, Columbus area, E. Tumlinson sur.	*	7582
Ft. Bend—		
Hebert & Smith, Davis 1, Needville area, H. & T. C. No. 39	*	5332
Montgomery County—		
A. T. Gramboski, Gay 1, nw of Montgomery, W. Landrum sur.	*	4020
Wharton County—		
Humble, Rogers 1, Lane City area D. D. D. Baker sur.	*	8252

* Failures; † Junked; ¶ Million cu. ft. gas.

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South Louisiana

LaPlace prospect wildcat has additional oil shows. Wilcox deep test proves disappointing at Bancroft.

Lake Charles.—Chances of commercial production from Pan American Production Company's Mills 1, LaPlace prospect wildcat in St. John the Baptist Parish, looked better than fair as an electrical log was being run to 8896 feet at the end of the week. A promising looking sand has been cored around 8112 feet, formation encountered between 8342-77 feet consisted partly of sand and shale with oil shows, and other strata between the latter depth and bottom had odors of oil. It is possible a string of protection casing may be set at thepresent depth before drilling continues to the 10,500-foot objective. Mills 1 is on a Shell Oil Company farmout.

Republic Production Company's Lutcher Moore 9 at Bancroft, which is attempting to open Wilcox production, appeared disappointing last week when 2 tests showed salt water. After the well had been drilled to 11,118 feet and casing set, the first drill-stem test made through perforations at 10,360 to 10,385 feet recovered salt water and gas. Perforations were squeezed and casing was again perforated with 48 shots from 10,309 to 10,378 feet and salt water was again shown. Plans are to perforate higher.

The California Company's Adams Rutley 1 in the Barataria area of Jefferson Parish was drilling ahead in shale last week at 11,594 feet after an electrical log run to 10,505 feet showed a slight kick. Side wall cores were taken, but no oil sands were recovered. The well had a sand with a slight odor of oil at 8205 to 8216 feet.

Drilling Obligation Assumed

Danciger Oil & Refining Company will engage in considerable drilling at Ville Platte, Evangeline Parish, if its first well, J. E. Vidrine 1, is productive. It is reported the company has obtained the J. E. Vidrine 172 arpents southeast of the producing limits of Ville Platte for the drilling of a 10,500-foot Wilcox well, $15,000 in cash and a 1/32 override in royalty. The lease was dated the latter part of September and the first well is to commence in 90 days. If production is established then a well has to be started a few weeks after the completion of the first well.

It was predicted some time ago that the southern part of Ville Platte would stand a good chance of producing Wilcox oil, and some stated that it had a good chance of producing Cockfield oil. When Continental Oil Company drilled Tate 1 to the Wilcox formation on the southern tip of the field, it logged a large section of Wilcox oil sand and was considerably higher on structure than other wells, but was plugged back and completed in Sparta sands. Later, on the southeast side of the field, Continental drilled Haas 3, which was lower than Tate 1, and it was completed in the Wilcox formation as a good producer. It made salt water from Sparta sands. Recently, Continental drilled Coriel 1, south of Haas 3, to the Wilcox sands and it was considerably higher on structure than Haas 3, indicating that probably further south towards the J. E. Vidrine leases wells might be higher than those in the field proper. J. K. Hughes, who drilled Ortego 1 between Haas 3 and Coriel 1, is reported preparing to work over the dry hole and carry it to the Wilcox formation.

To Drill Point Au Fer

On Point Au Fer prospect in Terrebonne Parish, Barnsdall Oil Company has announced location for a wildcat after working the area for several months with geophysical instruments. Nelson Development Company 1 is 565 feet south and 660 feet west of the northeast corner of Section 2-21s-11e.

On the Samstown prospect in Iberville Parish, Housh & Thompson abandoned Folse 1 at 10,823 feet after drill pipe became stuck. The well is reported to have had some slight shows of oil up the hole.

Shell Oil Company's Michel 1, outpost test at West Lake Verrett, St. Martin Parish, was waiting on cement

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South Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Baton Rouge—		
Grubbs & Hawkins, University Hills 1	280	6554
Wm. Helis, Duplantier B-2	375	6502
Markley & Crosby, Know-Amiss 5	210	6482
J. Edward Jones, Nicholas Community 1	69	6513
Bateman Lake—		
Texas Co., Bateman Lake 2	271	8685
Eola—		
Amerada, Glaze 2	465	8485
Charenton—		
Commerce Oil Co., Parro 3	364	6695
DeArman, Alleman 2	163	1126
Allemand 3	202	1127
Boudreaux 3	211	1126
Knisley, LeBlanc 6	200	1798
Garden Island—		
Texas Co., State 36	140	6257
Golden Meadows—		
F. W. Bennett, Orgeron 1	140	5200
Grand Bay—		
Gulf, State QQ-3	768	8131
Orleans Levee Board A-5	134	8455
Jennings—		
Guaranty Oil Co., Houssiere 3	*	1700
New Iberia—		
Wm Helis, Bernard 14	453	3060
Bolivar 9	350	3402
Quarantine Bay—		
Gulf, Plaquemines Land Co. A-1 (wo)	693	8219
South Roanoke—		
Continental, Sturdivant 3	195	9899
Calcasieu Parish—		
Louisiana Gulf Coast Oil Co., Perry Langdon 1	*	1920
Jefferson Davis Parish—		
Union Sulphur, Tietje 2, China area	*	9543
Iberville Parish—		
Housh & Thompson, Folse 1, Samstown area	*	10,823
St. Martin Parish—		
Continental, Levert-St. John 1, (wo), Pine Alley area	*	10,700

* Failures; † Junked; ¶ Million cu. ft. gas.

to set at 10,600 feet last week after running 7-inch casing. No shows of importance have been reported.

Another wildcat was abandoned on China prospect in Jefferson Davis Parish, Union Sulphur Company's Tietje quit at 9543 feet after logging salt water sands.

Phillips Petroleum Company, Humble Oil & Refining Company and The Texas Company are pooling efforts to establish commercial production on Erath prospect in Vermilion Parish. Location was announced last week for a wildcat in Section 22-13s-4e.

Bayou Pigeon prospect, St. Martin Parish, will be tested by Plymouth Oil Company. Location was staked for McHugh Heira 1 in Section 13-12s-10w. This prospect was found by Shell Oil Company by the reflection method and it is reported to have over 200 feet of closure.

Continental Oil Company has abandoned Levert 1, Pine Alley prospect, St. Martin Parish, at 10,700 feet. This wildcat was taken over from Roper & Todd, who drilled the well to below 9000 feet. It was considered a high well, having logged Discorbis at 10,090 feet.

Louisiana permits

Shreveport.—Fifty-two drilling permits were authorized last week by the Louisiana Conservation Commission of which 11 were for North Louisiana, divided among the following parishes: Bossier, 1; Caddo, 5; Sabine, 2; Union, 2; and Webster, 1. The 41 in South Louisiana were in the following parishes: Ascension, 1; Avoyelles, 6; Beauregard, 2; East Baton Rouge, 7; Jefferson Davis, 1; Lafourche, 5; Rapides, 2; St. Martin, 1; St. Mary, 15; and Terrebonne, 1.

Arkansas permits

El Dorado, Ark.—Three drilling permits, all for Columbia County, were issued last week by the Arkansas Oil and Gas Commission, as follows: Lion Oil Refining Company, R. S. Warnoch 1, C NW NW 15-18-22; Atlantic Refining Company, Luel Spain B-1, C S½ NW SW 18-17-19; and T. J. Gunnels B-1, located 585 S and 571 E of NWc NW SW 19-17-19.

Houston geologists elect

At a meeting October 5 the following officers were elected t o serve the Houston Geological Society for the next year: Wallace C. Thompson, General Crude Oil Company, president; Carleton D. Speed, Jr., Speed Oil Company, vice president; Olin G. Bell, Humble Oil & Refining Company, secretary; A. P. Allison, Sun Oil Company, treasurer. An advisory committee consisting of Roy L. Beckelhymer, R. J. Metcalf, and F. W. Rolshausen was also elected.

Wilcox County, Alabama, is scene of leasing activity

A group of East Texas operators have assembled a block of 11,900 acres in western Wilcox County, Alabama. The Texas Company and Magnolia Petroleum Company have leased 2000 acres elsewhere in the county. Lessees of the larger block are expected to investigate the possibilities of the Bethel fault which bisects the leases.

North Louisiana

Crawford plans test six miles from Shreveport

Shreveport.—Seven miles southeast of production in Shreveport field, Caddo Parish, Don Crawford last week started moving in materials for a 6000-foot wildcat test, Lloyd 1, located 3940 feet north and 1000 feet east of SWc Section 29-17n-13w, on a block of approximately 2300 acres. The test is between two 6000-foot dry holes, one in Section 20-17n-13w, and the other in Section 4-16n-13w. It will seek production in the basal Glen Rose lime (Pettet) productive in the Shreveport field and in the upper part of the Travis Peak.

Shreveport accounted for 2 new locations, bringing to 3 the number of active tests in this field, which has 48 oil wells producing from basal Glen Rose lime.

Rodessa Extended

Eleven hundred feet north of production in the northeast part of the Louisiana side of Rodessa, East Texas Refining Company's Atkins 1, SEc 8-23n-15w, was flowing into pits ungauged. Depth is 6140 feet.

Cotton Valley's deepest test, Hunt Oil Company's Glass 1, C SE NW Section 30-21n-9w, southeast edge test, was drilling below 9018 feet after topping the Davis or "F" sand at 8850 feet. The Davis sand showed some gas.

Stanolind Oil & Gas Company's Dillon Heirs 131, C SE NE Section 14-21n-15w, deep test in Pine Island, Caddo Parish, was drilling ahead below 8795 feet.

Union Producing Company's Tensas Delta A-1, NE SW SE 8-22n-4e, deep test in Morehouse Parish on the flank of the Monroe shallow gas field, drilled ahead at 7315 feet in lime.

Although the contact point was not definitely established, Lisbon Exploration Company's Roberta Vaughn 1, SW NW NE 36-21n-5w, deep test at Lisbon, Claiborne Parish, was believed in the lower Marine as it drilled 7892 feet in dark gray shale.

Shell Oil Company is leasing around Section 2-23n-6w, Claiborne Parish, bordering the Arkansas line. There is no drilling obligation. The area was worked with seismograph several months ago. Seaboard Oil Company of Delaware continues to assign leases to H. L. Hunt in the upper part of Township 21 north, Range 10 west, and the southern part of Township 22 north, Range 10 west, Webster Parish, north of Cotton Valley.

North Louisiana Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Bossier Parish (Bellevue)—		
J. B. Stovall, Gayoso 2, 14-19n-11w	5	395
Caddo Parish (Wildcat)—		
Prairie River Synd., Hutchinson B-2, 3-15n-12w	*	6010
Caldwell Parish (Wildcat)—		
Arkansas Fuel Oil Co., Louisiana Central 1, 31-12n-3e	*	7528

* Failures; † Junked; ¶ Million cu. ft. gas.

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Arkansas Fields

Columbia County will get two Smackover lime tests

El Dorado, Ark.—Standard Oil Company of Louisiana last week announced locations for 2 Smackover lime wildcat tests, both on geophysical prospects in Columbia County, Arkansas. Three miles north of production in the Magnolia field and 8½ miles northeast of the city of Magnolia, this company started moving in materials for R. S. Warnock 1, C NW NW 36-16s-20w, and northwest of Magnolia, the company was moving in materials for Petty Stave Company 1, C SE SE 4-17s-21w.

Barnsdall Oil Company is asking for bids on a Smackover lime geophysical prospect test to be drilled in or near Section 35-19-17, Union County, on what is known as the Three Creeks block, which has been being assembled for several months.

Stamps-Lewisville Quiet

With completion of 2 recent wells bringling to 10 the total of Glen Rose producers in Stamps-Lewisville, Fayette County, East Texas Refining Company and Erwin and Leach have made no new locations and drilling is at a standstill. The discovery well there was completed April 25. The Glen Rose zones have been found to be lenticular in this field and some of them carry water with oil. The average depths are from 3400 to 3600 feet.

Lion Oil Refining Company's Annie 1, C SE NE 29-15-17, Ouachita County Smackover lime wildcat on a geophysical prospect, was abandoned at 6098 feet after having shown gas and a little oil at 5666 feet in Smackover lime topped at 5640 feet.

The fourth well to be straightened by order of the Arkansas Oil & Gas Commission in Magnolia was whipstocking last week after the commission halted drilling at Southwood Oil Company's Poindexter 1, Section 23-17-20, on a 20-acre tract for which special permit has been issued. Drilling was halted at 5100 feet. Three similar projects had been previously ordered in that field, which has 68 producers.

Arkansas Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Columbia County (Magnolia)—		
Shell Oil Co., Inc., Merritt 1, 16-17-20	408	7685
La Fayette County (Stamps-Lewisville)—		
East Texas Ref. Co. et al, Buchanan Est. 2, 19-16-23	300	3473
McGee 1, 23-16-24	550	4002
Little River County (Wildcat)—		
Herford Oil Co., Penning 1, 6-13-30	*	1915
Ouachita County (Wildcat)—		
Lion O. R. Co., Annie 1, 29-15-17..	*	6098

* Failures; † Junked; ¶ Million cu. ft. gas.

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Mississippi

Chaney announces location for delta section wildcat

Jackson, Miss.—Another wildcat location for the delta section, northwest Mississippi, was made last week in Issaquena County. This is A. A. Chaney's Mohanna 1, Section 13-18n-3e.

A great amount of geophysical exploration is under way around Tinsley Dome, Yazoo County, delta section, where Union Producing Company recently completed Mississippi's first oil well at 4560 feet. Geophysical units working in this area include: a gravimeter unit of Magnolia Petroleum Company; a seismograph unit of Carter Oil Company; a soil analysis unit of Union Producing Company; a gravimeter unit of The California Company; a magnetometer unit of J. P. Evans; and a soil and gas analysis unit.

Fohs Oil Company has a gravimeter unit working in Wilkinson County, southwest Mississippi, and Robert L. Ray has a gravimeter unit working in Franklin County, in the southern part of the state.

D. H. Byrd and H. A. Harmon acquired only an interest in, and not the whole of, a 10,000-acre block assembled by W. E. Stewart and associates in Townships 5 and 6 north, Ranges 2 and 3 west, Hinds County. This group is preparing to drill immediately on the block.

Leslie B. Moss of Shreveport is taking a block in Townships 5, 6 and 7 north, Ranges 6 and 7 east, Scott County. Sinclair Prairie Oil Company, Southern Natural Gas Company and Tide Water Associated Oil Company are leasing near Redwood, 12 miles north of Vicksburg, Warren County.

New Mexico Fields

Shallow strike is assured in northern Eddy County

Hobbs, N. M.—A shallow oil strike near the north line of Eddy County was assured the past week when B. H. Nolen et al's Isle 1-a, near SE SE SE Section 17-16s-29e, indicated a pumping yield of 30 to 40 barrels of oil daily from sand at 1803-19 feet. Seven-inch pipe was landed at 1620 feet, and the hole filled 450 feet with oil in 18 hours. A four-hour bailing test failed to lower the fluid level. Top of red sand was logged at 1570 feet. The original prospect was junked at 1723 feet early in September. This producer is 3 miles north by east of a small gasser completed last April at 2431-38 feet, and is about 7 miles northwest of nearest Eddy County oil production.

Allowable production of prorated wells in Lea County was boosted from 42 barrels to 48 barrels daily effective October 1 as result of the restoration of the total quota for the state to 114,200 barrels daily and an upturn in field operations is due to follow. Lea County accounted for 9 tests the past week to equal the volume reported the previous week.

Vacuum Busy

Vacuum field was the largest contributor of new work, with The Texas Company starting work on 5 necessary offsets on the south and southwest edges, while Republic Production Company added 1. The latter completed State 3, C NE SW Section 32-17s-35e, flowing 30 barrels hourly natural at 4330-4591 feet, and skidded one location south. Both will require 3 offsets each.

A minor extension for the northeast portion of Penrose sandy-lime field resulted from the completion of Magnolia Petroleum Company's Brunson-Argo 4, C NE NW 10-22s-37e, flowing 110 barrels oil natural in 10 hours through ¼-inch choke after drilling to 3733 feet. It will require 3 offsets.

New Mexico Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Eddy County—		
Franklin Pet. Co., Ballard 3-B, nw ne ne 1-18s-29e	720	2771
Roeal Oil Co., Sanders 3, se ne se 13-17s-27e	25	553
Sanders Bros., Travis 1, ne nw ne 17-18s-29e	120	2603
Underwood & Sanders, Guy 1-O, c ne ne 9-18s-29e	600	2537
Miller 2, sw nw nw 4-18s-29e	†	2400
Eddy County (Wildcat)—		
Farmer-Tallmadge et al, Hubell 1, c se sw 4-18s-25e	*	1050
Stanolind, Zorichak 1, c nw sw 7-20s-31e	*	2515
Guadalupe County (Wildcat)—		
Hawkins et al (was Jack Manly), Agua Negra 1, near ne ne nw 33-8n-21e	*	450
Lea County (Hardy)—		
Skelly, Hill 3, lot 5, 6-21s-37e	217	3730
Lea County (Lynn)—		
Culbertson & Irwin, Carter-Shell 1, c ne ne 25-23s-36e	55	3641
Lea County (Mattix)—		
Continental et al, Jack 3-A-29	120	3600
Jack 7-A-20	552	3595
Lea County (Penrose)—		
J. C. Clower et al, Christmas-Gulf 3-B, se se nw 28-22s-37e	300	3680
Lea County (Vacuum)—		
Republic Prod. Co., State 3, c ne sw 32-17s-35e	720	4591

* Failures; † Junked; ¶ Million cu. ft. gas.

Harry W. Leonard et al's Gensberg 2, C SW NW 7-25s-38e, is starting up as a 2-mile east outpost for Langlie.

In the Mattix field, Continental Oil Company et al's Jack 7-A-20, C NW NE 20-24s-37e, responded to a 240-quart nitro shot at 3500-95 feet with a flow of 23 barrels of 37-gravity oil hourly through 24/64-inch tubing choke.

Development of Lovington is currently confined to inside locations, with 7 active tests. Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Caylor 1, C NW SW 6-17s-37e, is below par on production performance, having swabbed and flowed 90 barrels daily after using 8000 gallons of acid in lime at 4920 feet, or 1099 feet sub sea. The latest project involves Stanolind Oil & Gas Company's State 4-E, C NE NW 1-17s-36e.

California Fields

Dozen wells near final stage at East Coalinga

Los Angeles.—East Coalinga Eocene pool, Fresno County, currently rated as a most important San Joaquin Valley field, has about 12 wells slated for completion within 10 days. In an area where a recent mile extension well is located this week a 2200-barrel completion was recorded, a fact which will speed final activities on 3 wells at critical stages.

Should E. A. Parkford succeed in finding anything of interest in his wildcat in Section 24-20-15, Universal Consolidated Oil Company will drill its

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80-acre lease south of the Gatchell pool. Parkford's well is below 8000 feet.

Standard Oil Company of California's No. 73-19B extended Amerada pool over the week end when it was completed for 2100 barrels of oil per day at 8270 feet. This extension is toward Gatchell pool and oil men expressed surprise when the gravity was only 26, since the Bandini Petroleum Company's discovery well about 3000 feet away produced practically pure gasoline. The feeling is general that the recent completion proves that the Amerada and Gatchell pools are one field on the Coalinga Nose. This would make a field comparable to Coles Levee, which now is approximately 7 miles long.

Now that the Paloma field, its new name, is beginning to show signs of activity, interest is being shown in Western Gulf Oil Company's latest location, No. 74. It will go down in the south end of the San Joaquin Valley and is located in Section 3-32-26, where Ohio Oil Company is planning to drill a test well.

Dana Hogan, head of Hogan Petroleum Company has launched a new search south of Mountain View oil field to find a paralleling fold. His Wible 1, SWc Section 23-30-28, is to be drilled by electrically driven equipment. Hogan's Peters 4, in the proven field, Section 5-31-29, was swabbed in last week for an initial yield of 300 barrels of 22.8-deg. gravity oil per day from 5592 feet.

Lindley Morton, Los Angeles, will drill a wildcat near Arvin pool, Kern County. This project, Barlow Farms 1, is situated on a block of acreage recently acquired. It will go down in the center of Section 25-31-29. Arvin pool is in line with Mountain View field.

The Texas Company also will drill a wildcat at the north end of Arvin. Its location is on a portion of the J. F. Mott lease, Section 9-31-29, where Richfield Oil Corporation recently brought in a well.

California Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Los Angeles County (Dominguez)—		
Union, Carson 12	735	8032
Los Angeles County (Montebello-West)—		
East Montebello Oil, Rissinger 2	945	7623
Kern Oil, Monterey 30	1800	7710
McVicar-Rood Montebello, Manz 4	500	7619
Pueblo Oil, Pueblo 1	700	7657
Standard, Whitehead 8	225	7715
Wood-Callahan, Bartlett 1	325	7650
Los Angeles County (Potrero)—		
Basin Oil, Potrero 5	100	2941
Los Angeles County (Wilmington)—		
Signal Oil & Gas Co., Signal LB-SP (LB) 3	294	4105
Union Pacific, UP (LB) 117	319	3112
Fresno County (Coalinga Shallow Area)—		
Section Thirty Oil, No. 6	25	1260
Fresno County (Coalinga-Northeast Area)—		
Amerada Petroleum, SPL 5-17	440	8330
Kern County (Edison)—		
Petrex, Inc., Metro 2	60	4206
Kern County (Midway Sunset)—		
National Oil, No. 33	150	2410
Texas Co., No. 35	203	3207
Kern County (Mountain View)—		
Hogan Petroleum, Peters 4	296	5592
Kern County (Round Mountain)—		
Vedder Petroleum, Larkin 1	250	1886
Santa Barbara County (Gato Ridge)—		
Petrol Corp., Magenheimer 5-21	575	4057
Yolo County (Fairfield Area)—		
Standard, Corcoran 1	¶14,133,000	3682
Los Angeles County (Torrance)—		
J. E. O'Donnell, No. 73	*	5270
Kern County (Kern Front Area)—		
General Petroleum, Mattei 1	*	3801
Ventura County (San Miguelito-Padre Canyon)—		
C. C. M. O., Oakgrove 5	*	6977

* Failures; † Junked; ¶ Million cu. ft. gas.

Michigan Fields

Wildcat may open way for wider use of geophysics.

Sylvania sand objective of deep Porter field test.

Mt. Pleasant, Mich.—The first test in Sun Oil Company's 25,000-acre wildcat block in Barry County, apparently a dry hole, was shut down for orders early in the week at 2180 feet, but may prove history making in Michigan, for Wilcox 1, NE NE SW, Section 5-3n-9w, Rutland Township, correlated high on the Traverse, Dundee and Monroe lime formations and logged light shows in Traverse and Monroe.

Prior to making the location, the company had gone over the Barry block with seismograph and gravity meter. It was, as far as records are available, the first seismograph high location in Southwestern Michigan where drilling correlated to any degree. In three previous wildcats drilled in the shallow area on geophysical highs, actual check by drilling had not conformed.

Seismograph to date has not been used extensively in Michigan and has played only a minor role in development. Gulf Refining Company, Pure Oil Company and Sun, and perhaps others, however, have had survey parties active for the past several months in both Southwestern Michigan and North Central Michigan.

The heavy glacial drift deposits, ranging from 60 feet in Kent Count, to as much as 1000 feet in Osceola County, and averaging around 350 to 500 feet, have been troublesome. Likewise, Michigan's lime horizons often have sandwiching streaks of shale and dolomites, to cause serious corrective problems in shooting work. Structures are comparatively small and irregular.

Rodenhouse on New Structure

William R. Alexander's Rodenhouse 1, NE SE SE Section 14-6n-12w, Wyoming Township, Kent County, 3 miles south of the main Walker pool, and a mile south of 2 small pumpers, is producing between 65 and 85 barrels daily by pump and flow from Traverse lime. Dry holes between the Rodenhouse and the main field, apparently spot the well as a producer on a new closure off the Walker-Wyoming field trend and not an extension.

Operations in Ottawa County were given a setback when offsets to 2 different "discoveries" drilled dry. Freeman Oil Company's Kloosterman 1, Section 8-5n-14w, Zeeland Township, diagonal southeast offset to the same company's 200-barrel discovery in Section 5, was 20 feet off structure and dry. Freeman's Yntema 1, Section 25, also in Zeeland Township, a north offset to Chapman Oil Company's De-Kleine 1 discovery, also was dry at 1668 feet.

Daily Crude Oil Company's Herman 1, Section 11-8n-14w, Polkton Township wildcat, topped Berea grit at 1200 feet and at 1235 feet was showing 200,000 feet of gas.

With development of shallow lime Traverse production in Southwestern Michigan accounting for the bulk of new drilling and comparatively little activity in Michigan's Basin Counties, the current deepening of two wells for Upper Monroe and Sylvania sand tests bids to attract considerable interest.

The Upper Monroe, part of the Devonian system, as are the Dundee and the Sylvania, is a known commercial producer in Michigan in Temple field of Clare County, Vernon and Sherman fields of Isabella County, and in Tuscola and Bay counties.

To Explore Sylvania

Carter Lease, Incorporated, is drilling Fee 6, Section 18-13n-1w, Porter Township, Midland County, from its original completion depth in the Dundee lime at 3412 feet to a projected 4500 feet, which should be in the Sylvania. The Sylvania lies at the base of the Upper Monroe or Detroit River lime. Fee 6, drilling at 3600 feet in the Upper Monroe this week in an open hole from 1250 feet, had a hole full of Dundee

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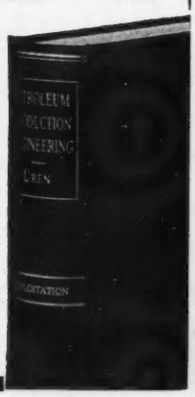

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water. Six-inch casing will be set in the Monroe. This test produced 350 barrels per day initially in 1935 from the Dundee lime and was down to 1 barrel per day when pipe was pulled for deepening. It is located on the west side of the south end of Porter field and presumably on the west side of the flank structurally.

More than 400 commercial wells were completed in Porter from 1933 to 1935, all in the Dundee lime, and none was drilled through the Monroe or into the Sylvania. Production from the field passed 30,000,000 barrels early this year to establish it as the biggest single field in Michigan. Production at the present time averages 90,000 to 100,000 barrels per month. Recovery now exceeds 7000 barrels per acre and abandonment probably will come within 5 years or less.

Pure Oil Company controls over 60 percent of Porter's Dundee, the producing area, with other leases widely divided.

Early Sylvania Tests

While no tests have been drilled below the Dundee horizon in Porter Township, 4 tests in Midland County have been carried into the Sylvania during the past 10 years.

Pure Oil Company drilled Reem A6, located SW SE SE Section 12-14n-3w, Chippewa Township, in the old Mt. Pleasant field, 12 miles northwest of the Fee 6, into the Sylvania in 1930. Log of the Reem A6 showed Dundee at 3517 feet, Monroe at 3618 feet and Sylvania sand at 4801 feet. It was abandoned at 4821 feet. Elevation was 719 feet. The log shows that 500 feet of oil was tested at 4271-73 feet in the Upper Monroe. This company also drilled the Iosco Land 1, SW SW Section 16-14n-2w, Greendale Township, around 10 miles northwest of Fee 6, into the Sylvania. The log showed an elevation of 696 feet, Dundee at 3529 feet, Monroe at 3681 feet, Sylvania at 4697 feet and total depth of 4750 feet. No shows were reported below the Dundee.

Thirteen miles west of the Fee 6, W. Hunter Atha's Chemical State Bank 1, SW SE Section 21-13n-2e, Ingersoll Township, was drilled into the Sylvania back in 1932. Elevation was 642 feet, Dundee at 3445 feet, Monroe at 3540 feet, Sylvania at 4607 feet, show of gas at 4637-51 feet, show of oil at 4651-57 feet, and bottom hole at 4662 feet.

Last year the Sun Oil Company tested Sylvania sand in the State B1, SW SW NE Section 9-15n-1w, Jerome Township, but finally abandoned the wildcat at 5069 feet. The test had an elevation of 656.5 feet, with Dundee at 3679 feet, Monroe at 3848 feet, Sylvania at 4967 feet, and an oil pay at 5020-25 feet, and water at 5069 feet.

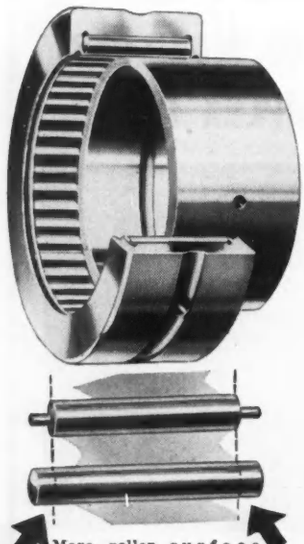
Thirty miles north of the Porter area, preliminary operations were underway this week to carry the discovery well of Buckeye field, Gladwin County, through the Monroe and into the Sylvania sand. The test will be made on J. V. Wicklund Development Company's State 1, Section 11-18n-1w, completed in late 1936 in the Dundee lime at 3612 feet, producing approximately 430,000 barrels of oil since completion.

Scattered tests have been drilled in the basin to the Sylvania but, according to geologists, in almost every instance deepening was made when the Dundee was dry of oil or not favorably up on structure. The facts that both of the projected Sylvania tests are comparatively well located on the shallower structures and in fields of proven upper bed production has heightened the interest in the current tests. In each case companies with offset or close in holdings are contributing toward the drilling expenses.

Michigan Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Spencer Cook, Schuler 1, se ne ne 13-2n-13w	*	1550
R. H. Grant, Lyman 1, se nw nw 23-1n-16w	*	1190
C. E. Weller, Iwaniec 1, se ne ne 1-3n-13w	*	1785
Socony Vacuum, Fein 1, ne se nw 2-4n-13w	50	1707
Packer Pet. Co., W. Twining 1, se ne se 3-4n-13w	75	1664
Weller & Jones, Junek 1, nw nw sw 14-3n-11w	*	1941
Arenac County—		
W. E. Ross, Crandell 2, c sw ne 10-20n-4e	*	1200
Clare County—		
American Prod. Co., Lake 1, c sw 16-18n-5w	¶9	1545
Gratiot County—		
Lang & Lewis, Inc., Graham 1, c ne 32-11n-4w	*	1011
Kalamazoo County—		
Smith Pet. Co., Johnson 1, c s sw nw 36-2s-10w	*	1408
Kent County—		
Alan Crude Oil Co., Stanton 1, se se se 19-7n-12w	75	1940
Gordon & Bolgers, Dykstra 1, nw se ne 30-7n-12w	300	1923
Wolverine Nat. Gas Co., Hoey 3, se ne sw 30-7n-12w	900	1890
Smith & Wolverines, Riddering 4, ne ne se 30-7n-12w	700	1893
Fanfare, Inc., Schipper 2, se nw ne 31-7n-12w	30	1858
Certainteed Prod. Co., Fee A1, sw se se 33-7n-12w	150	1778
W. W. Sprenger, Gruenbauer 1, sw nw sw 33-7n-12w	200	1776
Ide & Glavins, Reinhan 3, sw nw se 33-7n-12w	800	1808
Lenoran Pet. Co., Maynard 4, nw nw sw 4-6n-12w	600	1822
Wm. Alexander, Rodenhouse 1, ne se se 14-6n-12w	90	1901
Midland County—		
W. F. Brown's Coleman 1, c w nw nw 11-13n-2e	*	2900
Ottawa County—		
Columbia Oil Co., Cook 1, nw nw se 20-9n-13w	*	2086
Sohio Prod. Co., Weidenfeller 1, nw sw se 24-5n-13w	*	1061
Twin Drilling Co., Woodman 1, ne sw se 3-7n-13w	*	2000
Fisher & McCall, Inc., Goodale 2, sw se se 25-7n-13w	*	1915
Wolverine Gas Corp., Thomas 1, se ne se 25-7n-13w	200	1872
Muskegon Dev. Co., Weston 1, ne ne se 35-7n-13w	*	2069
Welsh Oil Co., Host 1, sw sw ne 32-8n-13w	*	1990
Freeman Oil Co., Kloosterman 1, nw ne ne 8-5n-14w	*	1700
Yntema 1, se se ne 25-5n-14w	*	1668
Van Buren County—		
Heldt et al, Cleveland 1, nw nw nw 31-2s-15w	*	1181
Blood & Hendershott, Drake 1, ne sw nw 28-2s-16w	*	1048
Huffman Drlg. Co., Lane 1, nw nw ne 5-1s-14w	*	1294
Walter Bochenck, Ampey 1, s s ne nw 13-1s-14w	*	1290
Universal Oil Co., Poth 2, nw ne nw 13-1s-15w	15	1239
Great Lakes, Abrams 1, c se sw 32-3s-15w	*	1022

* Failures; † Junked; ¶ Million cu. ft. gas.



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Rocky Mountain Fields

Second pay found in Sunburst at North Cut Bank. Log Minnekahta and Opeche showings at Dewey Dome.

Casper, Wyo. — Development of a second commercial horizon in the Sunburst sand by the Huber-Montana Corporation's Crowley 3, CNW NW 24-37n-5w, reported a week ago as a commercial well in the Moulton formations, makes the well the first to produce from 2 sands in the North Cut Bank pool. It made 55 barrels in 13 hours on an incomplete test of the lower horizon at 2662-2702 feet. The company has landed the production string at the upper depth and will complete the well in the Sunburst, leaving the Moulton horizon for later development through gun perforation of the casing if such becomes necessary.

The first well drilled this year in Pondera field, pondera County, Montana, the Pondera Oil Syndicate's Haber 1, NE NW SE 17-27n-4w, swabbed 27 barrels initial while cleaning out from 2034 feet in the Ellis-Madison formation topped at 2018 feet. The syndicate is installing pumping equipment and will produce the well naturally until market conditions warrant the use of acid, it was announced. There has been no regular market for Pondera crude since development of Cut Bank field, major Montana producing area in the northern sector of the state.

The Texas Company and The California Company, joint operators in Wilson Creek field, Rio Blanco County, northwestern Colorado, continue testing production in Unit 2, NW SE SW 27-3n-94w, and have released location for Unit 3, NE NE NE 27-3n-94w. Unit 2 is producing from Morrison sand formations, producing horizon in the discovery well, Unit 1, completed a year ago, at 6702 feet.

Additional oil shows encountered in the Minnekahta lime and the Opeche sandstone beds increase the interest in the test drilling on the northern end of the Dewey Dome field, Weston County, northeastern Wyoming, by Bruce C. Teeters. State 1, SWC SW NE 36-42n-61w, has been drilled to 1760 feet, where Teeters landed 10-inch casing on top of the Converse sand, upper Minnelusa member, and is waiting on cement to set before drilling ahead. The Leo sand, second bench of the Minnelusa series and main producing level in the lower sands of the Lance Creek field to the southwest, is the principal objective of the well.

The Wall Creek sands of the Frontier formation were topped at 5154 feet in the Continental Oil Company's McGrath 1, CNW SW 15-34n-78w, wildcat test well on the North Geary anticline, in Natrona County, central Wyoming. The well is drilling ahead below 5280 feet with primary objective horizons expected at around 5600-5700 feet. It will drill to the Sundance sands at around 7500 feet for a complete test of the structure.

Deepening operations on the Stanolind Oil & Gas Company's Ohio 2, NW NW NE 3-47n-100w, in the Little Buffalo Basin gas field, Park County, northwestern Wyoming, have been completed and well is preparing to test. The hole was drilled from old total depth at 1348 feet to 1586 feet and is moving out rotary equipment preparatory to the test. The field is the principal gas reserve for the Big Horn basin area of northwestern Wyoming.

Mountain States Completions

COLORADO

Company, Well and Location	Init. Prod. Bbls.	Depth
Moffat County (Iles Dome)—		
Stanolind, SD-Parkinson 34, sw se sw 22-4n-92w	60	3381
MONTANA		
Glacier County (Cut Bank)—		
A. B. Cobb-Texas Co., Vasbo-Consolidated 1, sw ne sw 27-27n-5w	¶1/3	2700
Texas Co., Hardwick 4, cnw se 17-32n-5w	100	3016
Toole County (Kevin-Sunburst)—		
Mosby Oil Corp., Pederson 2, cne se 7-35n-2w	10	1672
WYOMING		
Niobrara County (Lance Creek)—		
Continental, Rohlff 10, sw sw se 31-36n-65w	1920	5449

*Failures; †Junked; ¶Million cu. ft. gas.

JENSEN JACKS in a Nut Shell

NEW MODEL "D"—The new JENSEN Pumping Unit is the result of 20 years of close application to one problem. In field, drafting room, laboratory and factory, we have searched constantly for practical ways and means to add to the economy and efficiency of JENSEN Pumping Equipment.

GEAR REDUCTION—The life of any pumping unit depends on the gear reduction, and in this respect JENSEN Units are the despair of all competition. We use only single reduction trains. Tests indicate that the power loss through the tooth mesh in our Units is not more than 1%. We employ watch-like precision on specially adapted materials to produce a gear reduction that is unrivaled in the oil industry.

FRAMES—No unit is stronger than its frame, and so JENSEN Units employ a minimum of sturdy parts to form a structure equal to any stress and strain.

BEAMS, PITMANS—The pitmans are of double angle sections, with braces and stiffeners, and are mounted on rubber shock absorbers. The wide flanged, deep section beams have ample reserve strength. All JENSEN Units are fabricated by electric welding.

BEARINGS—Huge cast alloy bearings, equipped with oil seals and Alemite fittings, are used everywhere except in the gear reduction. Bearings in the straight-lift mechanism employ chilled pins. Saddle bearings on the cable head machines are mounted to permit forward and backward movement as well as lateral adjustment, to center over the well if the unit ever does, for any reason, become disturbed.

COUNTERBALANCE—We employ a rotary counterbalance in conjunction with an adjustable static counterbalance. The ease and accuracy with which JENSEN Pumping Units can be adjusted to balance a well contribute materially to their popularity with so many successful producers.

TWO-WELL HOOK-UP—By using a JENSEN Unit on each well you gain the important advantage of individual well control. However, with the short sampson post on all "D" Models except our 2D, 4D and 22D, it is possible to pump a second well successfully and still maintain approximately a balanced effect on the unit well. A take-off attachment is of course necessary.

CLEARANCE—To service a well equipped with a JENSEN Unit, it is a simple matter to lift off the equalizer bearing support and let it swing out of the way.

HEADS—JENSEN Units are available with either our Straight-Lift or Wire Line Heads.

SUB-BASE—A firm, rigid steel sub-base is available with any JENSEN Unit.

CAPACITY—JENSEN Model "D" Units are made in sizes to handle polish rod loads ranging from 1,100 to 24,000 pounds.

PRIME MOVERS—We recommend the use of multiple cylinder engines or high slip electric motors.

SUGGESTION—For facts and figures that will open your eyes, wire us at Coffeyville or get in touch with your JENSEN Dealer.

JENSEN

BROTHERS MANUFACTURING CO.

Coffeyville, Kansas, U. S. A.

EXPORT OFFICE: 136 LIBERTY STREET, NEW YORK CITY

WILDCAT REPORT
New Starts and Completions

STATE	WILDCATS STARTED		WILDCAT TESTS COMPLETED							
			Total		Oil		Gas		Dry	
	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year	This Week	This Year
Alabama	...	5	...	2	...	...	...	...	...	2
Arkansas	2	30	2	20	...	2	...	...	2	18
California	3	170	...	76	...	20	...	2	...	54
Colorado	...	2	...	1	...	...	...	...	...	1
Florida	...	3	...	1	...	...	...	...	...	1
Georgia	...	3	...	1	...	...	...	...	...	1
Illinois	6	459	6	357	...	26	...	2	6	329
Indiana	1	49	2	32	...	9	...	1	2	22
Kansas	6	199	5	191	1	52	...	9	4	139
Kentucky	6	45	...	23	...	8	...	...	...	15
Louisiana	3	108	3	82	...	13	...	3	3	66
North Louisiana	1	36	2	26	...	3	...	1	2	22
South Louisiana	2	72	1	56	...	10	...	2	1	44
Maryland	...	1	...	...	...	...	...	...	...	...
Michigan	5	204	11	265	1	19	...	...	10	246
Mississippi	1	16	...	9	...	1	...	...	...	8
Missouri	2	51	...	22	...	...	...	2	...	20
Montana	...	3	...	2	...	...	...	...	...	2
Nebraska	...	1	...	1	...	...	...	...	...	1
New Mexico	1	33	3	23	...	1	...	1	3	21
New York	...	1	...	4	...	1	...	1	...	2
Oklahoma	3	135	3	139	...	18	...	6	3	115
Ohio	...	4	...	10	...	1	...	...	...	9
Pennsylvania	...	3	...	5	...	...	...	...	...	5
South Dakota	...	2	...	2	...	...	...	...	...	2
Texas	31	848	25	919	2	86	3	19	20	814
East Texas	3	101	1	87	...	3	...	1	1	83
North Texas	4	110	...	173	...	26	...	1	...	146
Gulf Coast	...	83	4	80	...	6	...	1	4	73
Panhandle	...	8	...	8	...	...	...	1	...	7
South Texas	21	389	13	416	...	33	3	13	10	370
West Texas	3	157	7	155	2	18	...	2	5	135
Utah	...	1	...	...	...	...	...	...	...	...
West Virginia	...	2	...	1	...	...	...	...	...	1
Wyoming	...	5	...	3	...	...	...	...	...	3
Total U. S.	70	2,385	60	2,194	4	257	3	43	53	1,894

ARKANSAS

FIRST REPORTS

Columbia County—Standard Oil Co.'s Petty Stave Co. 1, c se se 4-17-21, mim.

Nevada County—O. T. Clark's Bemis 1, nw nw ne 23-10s-22w, mim.

COMPLETIONS

Little River County—Harford Oil Corp.'s Penning 1, 6-13-30, elev 319 ft, abnd 1915 ft.

Ouachita County—Lion O. R. Co.'s Annie 1, c se ne 29-15-17, top Nacatoch 1800 ft, top James lime 2930 ft, top Travis Peak 3145 ft, top Smackover lime 5640 ft, abnd 6098 ft.

CALIFORNIA

FIRST REPORTS

Los Angeles County — Melrose Petroleum Co.'s No. 1, Section 12-3-14, Athens area, lcn.

Kern County—Lindley C. Morton's Barlow Farms 1, Section 25-31-29, Arvin area, rur.

Santa Clara County—Homer Hatcher's No. 2, 1250 ft s, 1600 ft w nec 8-9s-1w, Moodie Gulch area, lcn.

ILLINOIS

FIRST REPORTS

Effingham County—Phillips' D. Overbeck 1, 571 ft north and 491 ft west of the center of section 31-8n-7e, sd 773 ft.

Jefferson County—Oils, Inc.'s J. W. Mace 1, section 34-3s-3e, moving in material.

Lawrence County—Ann-Bell's Wright 1, ne nw se 21-2n-13w, waiting on cement with surface casing set.

Marion County—Quisenberry et al's Hawkins 1, nw nw nw 32-1n-4e, Romine tnp, old well being deepened from 2948 ft, dr 3000 ft.

St. Clair County—A. Hempen et al's Southern Coal Co. 1, c ne ne 21-1n-6w, rigging up machine. L. A. Painter's H. C. Petri 1, 636 ft from the north line and 458 ft from the west line, se 28-2s-6w, dr 350 ft.

Wabash County—Nash, Redwine et al's A. E. Shultz 1, nw se ne 36-2s-14w, loc.

COMPLETIONS

Champaign County—Sidney Oil & Gas Co.'s Chas. Wendling 1, se ne se 10-17n-10e, Raymond tnp, top Trenton 1725 ft, abnd 1780 ft.

Gallatin County—Buford et al's Egyptian Tie & Timber Co. 1, sw ne nw 22-8s-10e, New Haven tnp, top Cypress 2433 ft, water, abnd 2478 ft.

Jefferson County—Wiser Oil Co.'s Severs 1, sw sw nw 19-2s-1e, top Fredonia 2235 ft, abnd 2365 ft.

Knox County—O. H. Hammer's Bragg 1, ne se se 9-11n-2e, Knox tnp, abnd 800 ft.

McDonough County—A. J. Hammer's F. W. Powell 1, se se ne 29-4n-4w, Lamoine tnp, abnd 110 ft.

Monroe County—Columbia Quarry's Fee 1, c nw sw se 3-3s-11w, Harrisonville tnp, top St. Peter 415 ft, abnd 750 ft.

INDIANA

FIRST REPORTS

Martin County—Morris & Gilmore's Cramer 1, se nw se 3-3n-4w, loc.

COMPLETIONS

Gibson County—Paul Davis et al's Prudential Life Insurance Co. 1, nw nw nw 36-1n-10w, top Ste. Genevieve 1846 ft, abnd 2000 ft.

Posey County—Roger Bros.' W. Seifert 1, sw sw ne 20-6s-12w, top Ste. Genevieve 2744 ft, abnd 2855 ft.

KANSAS

FIRST REPORTS

Barton County—B. B. & M. Drlg. Co.'s Krier 1, cel se se 30-16-11w, rur.

Cowley County—Smith et al's Haney "B" 1, cel nw sw 9-33-6e, rur.

Greenwood County—Spencer's Edwards 1, nwc sw 32-24-12e, ru machine. Barker et al's Gregg 1, sw nw se 35-25-12e, otd 1660 ft, dr 2000 ft.

Leavenworth County—Haworth et al's Mosbacker 1, sec nw 4-10-20e, machine.

Lyon County—Bruce's Fee 1-A, nwc 13-18-10e, dr.

COMPLETIONS

Barton County—Brimm's Dirks 1, c w½ sw ne 31-18-15w, ½ mi se Albert pool, top La-Motte sand 3550 ft, top pay 3581-83 ft, td 3585 ft, 163 bbls.

Coffey County—Sackrider et al's Allen 1, se ne se 13-21-15e, 2 mi ne Burlington, top Wilcox 1920 ft, hfw 2010-20 ft, abnd 2222 ft.

Cowley County—Lowell et al's Olsen 1, nec se 13-35-7e, 1½ mi s Olsen pool, top Arbuckle 3227 ft, abnd 3241 ft.

Saline County—Cling et al's Erickson 1, 3½ mi s Olsson pool, top Viola 3330 ft, abnd 3375 ft.

Sedgwick County—Parks, Bradley et al's Fisher 1, nwc ne 25-26-1e, top Mississippi 3029 ft, abnd 3046 ft.

KENTUCKY

FIRST REPORTS

Breckenridge County—Chas. Stewart's A. D. Howard 1, 760 ft from north line and 610 ft from east line, section 18-O-36, top Glen Dean 115 ft, dr 160 ft.

Daviess County—H. C. Farmer et al's P. Moorman 1, 1001 ft from east line and 1540 ft from south line, section 23-N-29, dr 360 ft.

Henderson County—Gus Baker, Jr.'s (Geo. Grimm's) Fulton & Yates 1, 1400 ft from north line and 900 ft from east line, section 4-P-26, old well being deepened from 1050 ft, dr 1100 ft.

Logan County—A. A. Peard's C. N. Darden 1, 760 ft from south line and 4199 ft from east line, section 13-E-31, fishing at 200 ft.

McLean County—Mocarz Oil Co.'s L. S. Howard 1, 2610 ft from east line and 3950 ft from south line, section 21-N-25, sp.

Ohio County—C. L. Twisler's Robt. Schroader 1, 450 ft from north line and 2710 ft from east line, section 3-L-33, dr.

NORTH LOUISIANA

FIRST REPORTS

La Salle Parish—Petersen Pet. Co.'s LaSalle 1, se nw se 36-9n-2e, spudded.

Caddo Parish—Don Crawford's Lloyd 1, located 3940 ft n and 1000 ft e swc 29-17n-13w, mim.

COMPLETIONS

Caddo Parish—Prairie River Synd.'s Hutchinson B-2, sec 3-15n-12w, elev 163 ft, massive anhydrite 4145-4396 ft, top Travis Peak 5740 ft, abnd 6010 ft.

Caldwell Parish—Arkansas Fuel Oil Co.'s La. Central Lbr. Co. 1, c nw sw 31-12n-3e, elev 160 ft, top Cook Mountain 465 ft, top Wilcox 1550 ft, abnd 7528 ft.

SOUTH LOUISIANA

FIRST REPORTS

Lafayette Parish—Stanolind's Billeaud 1, Broussard area, 660 ft s and 660 ft e of nwc sw¼ sec 35-10s-5e, lcn.

St. Martin Parish—Wm. Helis' Rycade Oil Co. 1, Section 28 dome, 330 ft s and 410 ft w of nec sec 33-9s-7e, lcn.

COMPLETIONS

Avoyelles Parish—Carter-Rubsamen et al's Boyette 1, Latamier area, sec 28-3n-5e, top Wilcox 5215 ft, slight show of gas 5221 ft, Vick 2991 ft, Jackson 3130 ft, Cook-Mt. 3880 ft, Sparta 4112 ft, Cane River 4890 ft, salt water sand 5465 ft, abnd 5550 ft.

MICHIGAN

FIRST REPORTS

Arenac County—Chief Oil Co.'s Koelsch 1, nw nw nw 16-18n-4e, lcn.

Kalamazoo County — Smith Pet. Corp.'s Becker 1, nw nw nw 32-2s-9w, rig.

Ottawa County—Lowry & Mapes' Venema 1, ne se 7-8n-14w, rig.

Roscommon County—C. L. Maguire, Inc.'s Russell Lake Club 1, c sw ne 13-23n-2w, rig.

Van Buren County—Union Oil Co.'s McNulty 1, ne nw se 13-3w-13w, lcn.

COMPLETIONS

Allegan County—Spencer Cook's Schuler 1, se ne ne 13-2n-13w, Traverse 1487 ft, so 1491 ft, abnd 1550 ft. R. H. Grant's Lyman 1, se nw nw 23-1n-16w, Traverse 1160 ft, abnd 1190 ft. C. E. Weller's Iwaniec 1, se ne ne 1-3n-13w, Traverse 1779 ft, abnd 1785 ft. Weller & Jones' Junek 1, nw nw sw 14-3n-11w, Traverse 1884 ft, abnd 1911 ft.

Kalamazoo County — Smith Pet. Corp.'s Johnson 1, c sw nw 36-2s-10w, Traverse 1375 ft, abnd 1408 ft.

Kent County—Wm. Alexander's Rodenhouse 1, ne se se 14-6n-12w, Traverse 1869 ft, pay 1870-1896 ft, td 1901 ft, acidized 500 gallons, pump and flow 90 barrels first 24 hrs, pumping 75 barrels fifth day, mile south of Walker-Kent field.

Midland County—W. F. Brown's Coleman 1, c nw nw 11-13n-2e, abnd 2900 ft.

Ottawa County—Columbia Oil & Gas Co.'s Cook 1, nw nw se 20-9n-13w, Traverse 2051 ft, so 2055 ft, abnd 2085 ft. Sohio Producing Co.'s Weidenfeiler 1, nw sw se 24-5n-13w, abnd 1061 ft. Welsh Oil Co.'s Host 1, sw sw ne 32-8n-13w, Traverse 1860 ft, sg 1862 ft, abnd 1990 ft.

Van Buren County—Heldt & Hoffman's Cleveland 1, nw nw nw 31-2s-15w, Traverse 1014 ft, abnd 1181 ft. Great Lakes Crude Oil Co.'s Abrams 1, c se sw 32-3s-15w, Traverse 1000 ft, abnd 1022 ft.

MISSISSIPPI

FIRST REPORT

Issaquena County—A. A. Chaney's Mohanna 1, sec 13-18n-3e, mim.

MISSOURI

FIRST REPORTS

Knox County—Oberither et al's Campbell 1, c ne 18-61n-12w, pits.

Platte County—Missouri Valley Gas & Oil Co.'s Yerrington 1, c se ne 12-51n-34w, dr.

NEW MEXICO

FIRST REPORTS

Lea County—Harry Leonard Oil Co.'s Gensberg-Texaco 2, c sw nw 7-25s-38e, mim.

COMPLETIONS

Eddy County — Farmer-Tallmadge et al's Hubell 1, c se sw 4-18s-25e, elev 3542 ft, abnd in hfw 1050 ft. Stanolind O&G Co.'s Zorichak 1, c nw sw 7-20s-31e, elev 3346 ft, top anhydrite 328 ft, base salt 1850 ft, top brown lime 1928 ft, abnd 2515 ft.

Guadalupe County—Hawkins et al (was Jack Manly's) Agua Negra ranch 1, 267 ft from n and 2178 ft from w lines 33-8n-21e, elev 4640 ft, abnd 450 ft.

OKLAHOMA

FIRST REPORTS

Kiowa County—Butler et al's Meyers 1, ne se nw 25-7n-21w, machine.

Seminole County — Sands Petroleum Co.'s Misselda 1, nwc se 13-7n-5e, coring 3140 ft.

Stephens County—Parsons et al's Brewer 1, c e½ se nw 10-2n-9w, pits.

COMPLETIONS

Cotton County—Dean Bros.' Emery 1, nec 30-3s-13w, 7 mi ne Red River Beds, abnd 2503 ft.

Kay County—McBride's State 1-A, sw ne ne 13-29n-2w, 2 mi w Braman pool, top Simpson 3953 ft, abnd 3872 ft.

Noble County—Crosbie et al's Robbins 1, swc nw 6-22n-2w, between Billings and Garber pools, top Tonkawa 3257 ft, top first Wilcox 5177 ft, top second Wilcox 5354 ft, so 3261-64 ft, abnd 5262 ft.

NORTH TEXAS

FIRST REPORTS

Archer County—L. T. Burns et al's Jake Penartz 1, 330 ft out of sec lot 19, blk 4, Clark-Plumb sur, 2½ miles w by s Windthorst, rig for 4000-foot test. W. B. Hamilton Pet. Co.'s C. E. Graham 5, 4700 ft s and 660 ft e of nec of F. C. Green 1290-acre tract, J. Levins sur A-259, but in S. Abercrombie sur A-1249, 1 mi w by s Anarene, mim for 4700-ft test.

Clay County—Continental-Superior Oil Co. (Cal.) and A. R. Dillard's Ross Bros. 1, 1650 ft from n and 330 ft from w lines of W. Walker sur, A-703, mim for 5000-ft test.

Montague County—O. C. Fisher-Holmes & G. R. Thomas' D. H. Reed 1, 330 ft out of swc east 105-acre tract, J. L. Graham sur A-295, cem cas 30 ft and sd.

TEXAS GULF COAST

COMPLETIONS

Colorado County—Strake's Burford Estate 1, Columbus area, 250 ft e of e line of first ward, 10-acres, 422 ft n of s line of Burford tract, E. Tumlinson sur, tried to blow out 4200 ft, abnd 7582 ft.

Ft. Bend County—Hebert & Smith's Davis 1, Needville area, 330 ft out of the E/c of 65-ac tract, H. & T. C. No. 39, abnd 5332 ft.

Montgomery County—A. T. Gramboski's Gay 1, nw of Montgomery, 330 ft out of sec 89-ac tract, Wm. Landrum sur, abnd 4020 ft.

Wharton County—Humble's Rogers 1, Lane City area, 1399 ft ne of sw line and 466 ft nw of se line of 218-acre tract, D. D. D. Baker sur, abnd 8252 ft.

WEST TEXAS

FIRST REPORTS

Crane County—Gulf Oil Corp.'s W. N. Waddell et al 12, c se PSL sec 30, blk B-26, mim.

Cochran County—Atlantic Ref. Co.'s H. T. Boyd-Humble 1, 580 ft out of swc labor 11, league 56, Oldham C.S.L. sur, rur.

Jones County—Hickock & Harry Reynolds' C. W. Williams 1, 440 ft out of sec sec 24, Deaf & Dumb Asylum Lands, mim for Palo Pinto lime test.

COMPLETIONS

Jones County—Jones-Stasney & Byron's J. Muehlstein 1, 1320 ft from n and 440 ft from e lines sec 28, Deaf & Dumb Asylum Lands, elev 1576 ft, abnd 3550 ft.

Reeves County—Forest Development Corp. et al's I. E. Scott 1, c se H&GN sec 286, blk 13, elev 3005 ft, top Delaware lime 4810 ft, top sand 4883 ft, sw 5333-36 ft, pb for 170-quart nitro shot 4880-4950 ft and abnd.

Tom Green County—H. A. Ringle et al's L. Seal 1, 590 ft from s and 2730 ft from w lines sec 137, Washington Co. Ry. sur, elev 1767 ft, abnd 1625 ft.

Yoakum County—F. M. Allison Producing Co.'s D. T. Bush 1, sw nw sw sec 629, blk D, J. H. Gibson sur, elev 3576 ft, top solid lime 4860 ft, abnd in water 5426-62 ft.

WEST CENTRAL TEXAS

COMPLETIONS

Callahan County—W. J. Dobbs et al's Finley 2, sec 75, Blind Asylum Lands, abnd in shale 2104 ft.

Shackelford County—Fain-McGaha Oil Corp. et al's Dawson-Conway 1, near southeast corner of P. G. Holcomb sur, o.s. 1491-96 ft, td in shale 1497 ft, pumped 37 bbls. B. & F. Bonded Cotton Warehouse Co.'s E. Spell 1, nw part of sec 14, Blind Asylum Lands, o.s. 618-22 ft, pumped 5 bbls initial.

Stephens County—Wittmer O&G Properties, Knight & Ewing's B. D. Loving 1, near sec sec 66, Blind Asylum Lands, elev 1292 ft, top Caddo lime 3488 ft, used 1000 gals acid in saturation 3496-3512 ft, flowed 200 bbls 43 deg. oil 4 hrs.

SOUTH TEXAS

FIRST REPORTS

Bee County — Anderson-Prichard Oil Corporation and Mills Bennett Production's Robinson 1, 200 ft s line, 200 ft e line sw quarter se quarter of sec 6, Jose Maria Uranga gr, mim.

Brooks County—Magnolia Petroleum Co.'s Vivian Rust 1, 1320 ft n line, 1320 ft e line of lot 14, blk 11, subd of lands adjoining townsite of La Gloria, spudding.

De Witt County—Atlantic Refining Co.'s Pearl Conwell 1, 1200 ft ne line, 1100 ft se line of 120.86-ac tr, blk 3, Charles Lockhart sur, lcn.

Duval County—William H. Appel's John H. Miller 1, 330 ft n line, 330 ft e line of nw quarter of sec 62, Copita Farm and Garden Tr. Subd., blk 3, Jose Marcellino Hinojosa gr, lcn. G. W. Basom, Tr.'s Keoughan Adami 1, 190 ft s line, 190 ft w line of lot 2-A, A&AM sur 47, drlg 665 ft.

Karnes County—Clyde Echols and E. A. Cezeaux' Newberry 1, 330 ft n line, 330 ft w line of blk 30, R. E. Dalton subd in 428-ac tr, Carols Martinez gr, Ab-6, lcn.

McMullen County—Harrison and Ross' J. A. Bracken 1, 180 ft s line, 250 ft e line, se quarter sw quarter sec 15, Two Rivers Ranch subd, dr 500 ft, Wellington Oil Co. et al's Sanger-Archibald 1, 330 ft n line, 1650 ft w line of C. P. Smith sur 194, spudded.

Milam County—M. A. Hays et al's Emil Svoboda 1, 450 ft nw line, 450 ft sw line of 150-ac tr in M. Punchard sur, dr 1000 ft. W. H. Lawrence's J. F. Bartek 1, 310 ft se line, 207 ft sw line of 88-ac tr, Jose Antonio de Pena gr, dr 1000 ft.

Refugio County—Wm. F. Morgan-Gulf Oil Corp.'s J. M. Thomas 1, 330 ft sw line, 660 ft se line, sec 45, Bonnie View subd, Guadalupe Cobian and Family sur, lcn.

San Patricio County — Diamond-Half Oil Corp.'s Walter F. Timon 1, 466 ft ne line, 466 ft nw line of blk 2, Town Tract of San Patricio gr, dr 2500 ft. Wellington Oil Co.'s J. F. Welder Heirs B-2, 566 ft n old bed of Nueces River, 466 ft e of w line of Cayetano de la Garza gr, dr below sur pipe.

Starr County — Herbert Aid's Francisco Garza 1, 150 ft n line, 150 ft w line, sh 33, porc 71, Jurisdiction of Camargo, dr 400 ft. Bancroft Drlg. Co.'s Ignacio Guerra 1, 330 ft n line, 330 ft w line, ne quarter of sh 99, porc. 104, fishing 1700 ft. Gilbert et al's Escobar et al 1, 165 ft s line, 165 ft w line, sh 37-A, porc. 71, Camargo Juris., spudded.

Travis County—G. C. Richardson, V. Chamberlain 1, 2150 ft ne line, 1800 ft se line, James H. Manning sur 37, shut down 600 ft.

Victoria County—Houston Oil Co. of Texas' Emma Martin et al 1, 330 ft nw line, 330 ft sw line of blk 42, John W. McKinnon subd of Fleming Ranch and in Pedro Gallardo sur, moving in.

Webb County—H. K. Boysen & Brian Jones' G. W. Watkins 5, 330 ft n line, 330 ft e line of se quarter of sec 1, San Casimero "Valentine de las Fuentes" gr, lcn.

Williamson County—Kinsely, Aldridge and Cockburn, D. M. Sloan 1, 645 ft most s'ly s line, 1050 ft most w'ly w line of 100-ac lse, Samuel Pharrass sur, lcn. Taylor Refining Co.'s G. A. Riethmayer 1, 1449 ft s line, 768 ft e line of 256-ac tr, Peter Cartwright sur, lcn.

COMPLETIONS

Bastrop County—Kirby Petroleum Co.'s H. H. Meeks 1, 400 ft ne line, 150 ft nw line, 30.44-ac tr, Thomas Garretson sur, temp. abnd 2850 ft.

Colorado County—Strake Petroleum, Inc., of Delaware, Ned Burford 1, 250 ft e of e line of H. A. Ward tr and 422 ft nw of s line of 208-ac Burford tr at Bend of River, E. Tumlinson sur, abnd 7548 ft.

Duval County—Sam Cunningham's E. A. Lopez 1, center of blk 18, Hays and Dix subd, sur 14, top Jackson 4577 ft, abnd 6505 ft. South Coast Oil Co. and Roeser and Pendleton, Inc.'s F. G. Garcia 1, 330 ft s line, 990 ft e line of s half sw quarter of sec 311, H&GN sur, abnd 5306 ft.

Goliad County—Duke C. Matthews and Shell Oil Co.'s J. G. Swickheimer 1, 700 ft s line, 1950 ft w line of blk 20, subd of Swickheimer Land, Cuadrilla Irrigation Co. sur, gas sand 2840-73 ft, 3512 ft, gasser, perforated 2840-64 ft.

Jim Hogg County — W. L. Goldston and Charles B. Fox's E. G. Canales Estate 2, 466 ft n line, 466 ft e line of blk 24, subd of Las Mujeres, Lignite 3955 ft, Jackson 4053 ft, Hockley 4207 ft, Cockfield 5205 ft, Pettus 5219 ft, sand with oil odor 5247-57 ft, plugged 5803 ft, tested salt water in Pettus sand.

Live Oak County—H. F. Baker's W. Rossi 2, 330 ft n line, 675 ft e line of 136-ac lse in sec 1, Potter-Wedding subd, Bridget Haughey sur, abnd 1925 ft. Smith and Storey's J. T. Lyne 1, 4671 ft nw line 3975 ft se line, Jacob Cook sur 171, salt water sand 2624-40 ft, abnd 3010 ft.

Refugio County — Norsworthy Production Co.'s Mattie Wood 1, 3418 ft se line, 2486 ft ne line of 1003-ac tr, John Sinnott sur, Ab-68, abnd 6508 ft.

San Patricio County—Republic Natural Gas Co.'s L. Phillips 1, 330 ft s line, 330 ft e line, w half se quarter, sec 60, Paul's subd Coleman-Fulton Pasture Co. Lands, td 6007 ft, plugged back 4085 ft, completed, perforations 4036-46 ft, est. 20 million cu ft gas, now shut in, 1450 lbs tubing, 1650 lbs casing pressure.

Starr County—W. W. Zimmerman's Ben D. Wood 1, 150 ft e'ly w line, 450 ft n'ly n line of 64.7-ac lse, 2, salt water sand 2749-92 ft, abnd 2792 ft.

Victoria County—Houston Oil Co. of Texas' Jacob Hornstein 1, 330 ft nw line, 312 ft sw line of ne half of blk 43, John W. McKinnon subd of Fleming Ranch and in Pedro Gallardo sur, gas sand 2116-25 ft, dry sand 2350-2404 ft, gas sand 2858-65 ft, td 3041 ft, gasser.

Zapata County—John F. Camp Hinnant-Mann 1, 330 ft s line, 150 ft w line of blk 14, GC&SF sur 251, abnd 1730 ft.

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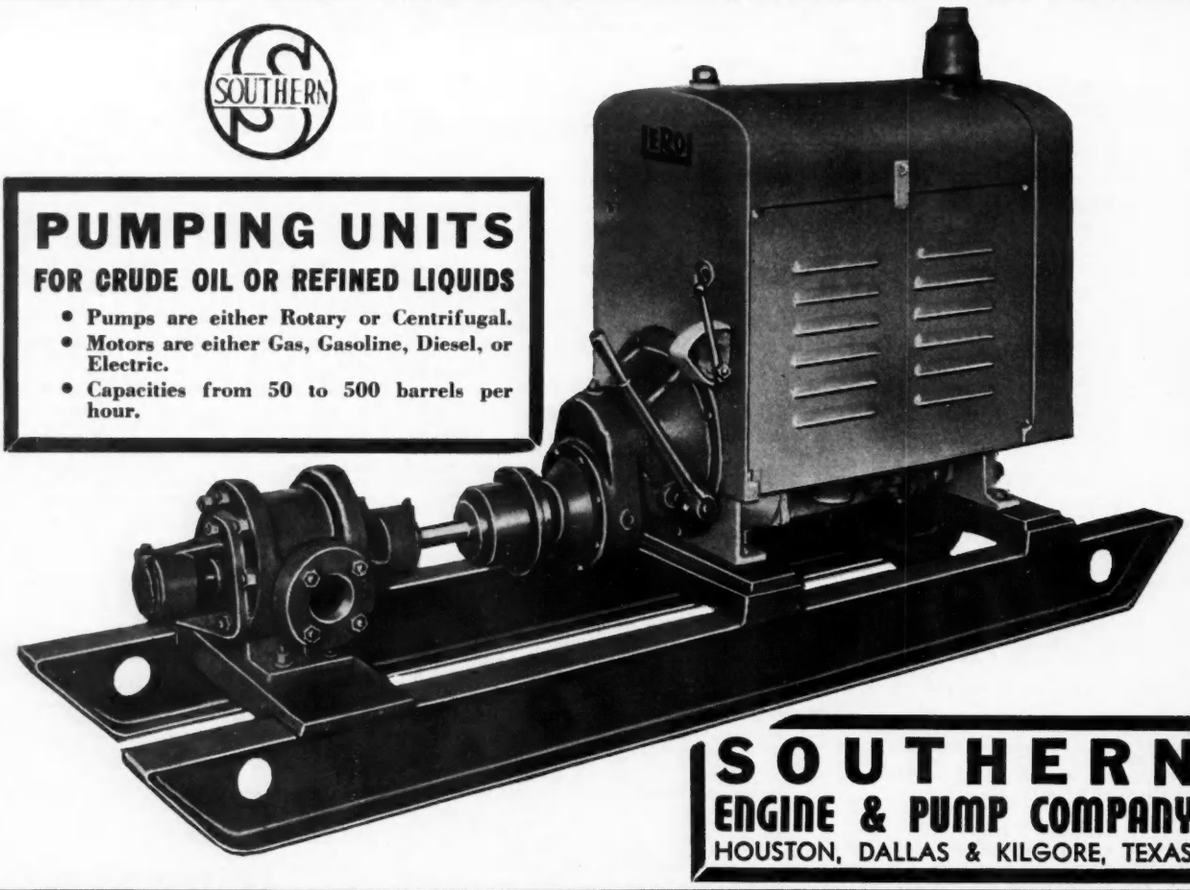

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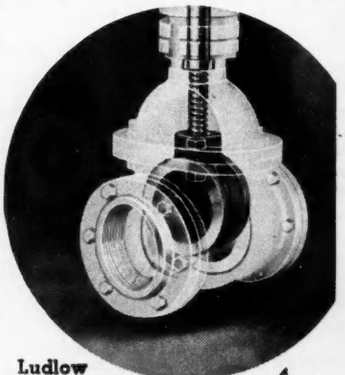
A valve must remain in operation, free of foreign matter. The best valve therefore **cleans itself** throughout its entire stroke, and has no internal guides to cause foul-up.

The best valve also assures smooth, positive operation by unwedging and freeing gates **before** raising, wedging them only when they are directly opposite ports. It allows ready replacement of parts through ample tolerances; it guarantees positive closure with self-releasing 30° angle wedges, and gates **self-adjusting** to seats. It permits no pressure shock.

Only the parallel seat, double wedge type slide gate valve provides **all** these essential benefits. This principle, developed and perfected by Ludlow, has been universally accepted and preferred for oil, gas, and water lines since 1866.



Ludlow Principle

Information free on request.

The LUDLOW VALVE MFG·CO· TROY·N·Y· SINCE 1866

NOTES FOR THE Equipment Buyer and User

Gage Valve

PENBERTHY INJECTOR COMPANY

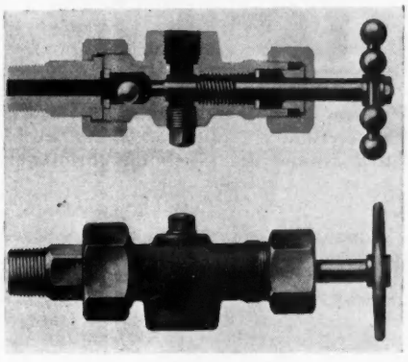
Penberthy Injector Company, Detroit, is producing drop-forged steel gage valves, which are recommended for pressures up to 1500 pounds at 100° F. or 500 pounds at 1000° F.

Construction is all steel throughout. The interior trim, including valve stems, packing glands and ball checks is of stainless steel.

In the design to aid in cleaning there is an offset feature with a large plug in the top of the upper body and a drain plug in the bottom of the lower body.

The valve has an automatic shut off whereby a stainless steel ball stops the flow of liquid in case of glass breakage.

Stainless steel is used for stem packing while heavy duty stuffing boxes and packing nuts provide ample space for packing glands and packings.



Penberthy Gage Valve

Standard gage connections are ½-inch pipe threads with ¾-inch optional.

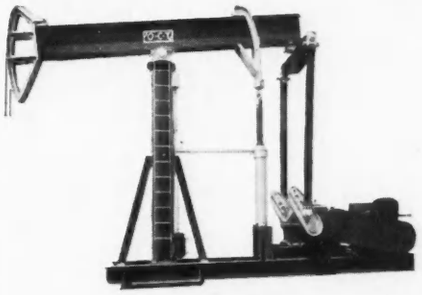
Air Balanced Pumping Unit

OIL CENTER TOOL COMPANY

Oil Center Tool Company, Houston, announces development of an air-balanced pumping unit, claimed to employ a new principle.

According to the manufacturer, the new O-C-T Pumper utilizes compressed air on both the upward and downward stroke. The air compressor is housed in a vertical chamber between the gear box and sampson post, the compressor mechanism being actuated by the movement of the walking beam. The cylindrical sampson post serves as a reservoir for the compressed air. On the up stroke of the sucker rods, air pressure is automatically applied to the top side of a piston in the compressor chamber to assist the prime mover in lifting the load. This pressure on the top side of the piston serves the same purpose as the conventional counter balance weights on the extremity of the walking beam. On the down stroke of the sucker rods, the same air pressure above the piston serves as an effective cushion, positively preventing a sudden, undesirable drop of the load.

Moving parts of the entire mechanism are provided with force-feed lubrication. A single lubricator is provided at the base of the sampson post. The prime mover may be any one of the numerous conventional types. The entire unit is heavily constructed. The foundation and walking beams are of welded I-beam construction.



O-C-T Pumper

According to the manufacturer, a range of sizes to take care of all present production levels will be offered.

Filter Silencers

AIR-MAZE CORPORATION

As an answer to the campaign against objectionable industrial noises Air-Maze Corporation, Cleveland, Ohio, has developed air filter silencers for engine and compressor intake duty. The silencers are an acoustical chamber made either integral or detachable with standard oil bath or oil film filters. Makers assert that the addition of the silencers does not impair the filtering efficiency of the unit and will contribute to the comfort and efficiency of employees in the vicinity.

Motor Data Book

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has published a 28-page booklet, B-6029, containing a vast amount of buyers' data never before available on Lo-Maintenance Motors and Texrope Drives.

The booklet is designed to present a wide range of facts that will help specifiers and buyers in estimating costs, types, and sizes of drive equipment and motors to be used under various operating conditions.

Sand Acidization Process

DOWELL, INCORPORATED

During the past two years engineers of Dowell, Incorporated, Tulsa, Oklahoma, working in conjunction with major oil companies, have developed the chemical treatment of sand formations in the Texas and Louisiana Gulf Coast areas. The treatment involves the dissolving and removing of cement, mud, silt, shale and scales from the formation, the entire function of which is to wash the critical zone of a producing well with a chemical solution that may be more easily purged or removed from the formation than the oil itself.

The chemicals employed to treat sand formations, clean screens and clean gun perforations were designed especially for use in the presence of sand formations, and are not to be confused with the conventional "acidizing" chemicals used to acid treat soluble lime formations. Several improvements were made in the inhibitor agents in order that suitable chemicals might be used in the presence of wire-wrapped screens and excessively high bottom-hole temperatures found in the Gulf Coast area. Other agents were developed to increase the solubility of cement, drilling muds and certain scale deposits. It was also necessary to add certain surface tension lowering and wetting agents as well as additives to increase the solution rate of compounds normally considered to be substantially insoluble in acid.

During the past year, nearly 100 wells producing from sand formations in the Gulf Coast have been treated successfully. There are many case histories of well treatments followed by large increases of production since the introduction of these services on the Gulf Coast. The wells treated fall into all classifications such as new wells being completed, work-overs, old wells and "problem" wells.

In some areas, operators have adopted the cleaning treatment for gun perforations as a standard procedure before any test of the well is made. One well had been reperforated nine times with a total of more than 150 shots within a 10-foot section resulting in no flow of gas or fluid. Within 12 hours after

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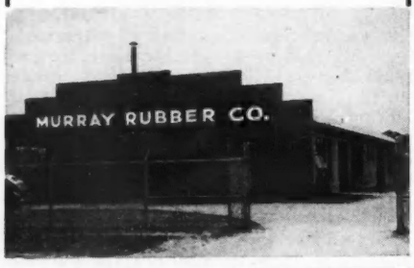

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NOTES FOR THE Equipment Buyer and User

chemical treatment, the well flowed "pipe line" oil into the tanks.

Many wells killed completely and "mudded off" by heavy muds have been revived within a few hours by chemical treatments. In several instances old wells declined to the pumping or gas-lift stage have been made to flow with a substantial increase in oil.

Economies involved in the above described chemical treatments are many. First, time and money are saved in well completions and work-overs. The increased production in old wells usually pays for the treating service within a few days. The actual cost of the treating service is very low, the average treatment requiring 1500 gallons (or 36 barrels) of chemical.

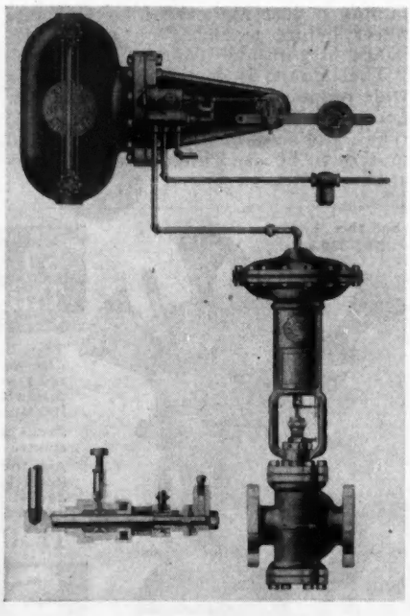
Trained Dowell engineers capable of handling pressure and chemicals under all types of well conditions, supervise all treatments. Equipment, the design and operation of which are based on years of experience in chemically treating oil wells, is maintained in Dowell treating stations on the Gulf Coast.

Liquid Level Controller

KIELEY & MUELLER, INC.

Kieley & Mueller, Inc., New York, is offering a liquid-level controller line built in floats from 6 inches to 12 inches. Bodies are of cast steel, semi-steel, alloy steel and other special construction, including a special method of lead lining for acid services.

Construction includes a ball-bearing stuffing box, with a KA2SMO stainless steel one-piece shaft. Packing may be removed from the stuffing chamber without breaking the connection of the box in the float chamber. The controlers are available in direct connected, pilot operated and in conjunction with air operated instruments.



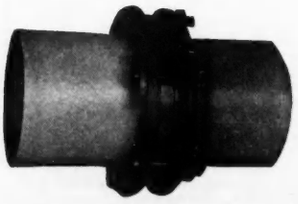
Kieley & Mueller Level Controller

Porous-Weld Clamp

DRESSER MANUFACTURING COMPANY

A special design of clamp said to be suitable for practically any working pressure or service, has been developed by Dresser Manufacturing Company, Bradford, Pa. Function of the clamp, known as style 55, is the repair of porous circumferential pipe welds, and of small pin holes and leaks in pipe.

Standard pipe sizes for which the style 55 clamp is available are 1¼-inch I.D. to 26-inch O.D., inclusive.



Dresser Porous-weld Clamp, Style 55. The sectioned (split) parts are easily fitted around the pipe's circumference at the weld.

Advantages claimed by the manufacturer include suitability for high working pressures; quick, inexpensive, permanent repairs; easy installation of the few, simple parts around the pipe—under all normal pressures, without interruption of the service—using only a wrench.

The clamp is described as consisting of (1) two split (sectioned) followers; (2) a heavy, specially grooved, split gasket that fits over the weld; (3) a stainless-steel, split, gasket-retaining band that encircles the gasket; (4) a length of wire to hold the bend in place during assembly; and (5) the required number of track-head steel bolts. Additional information is given in a Dresser folder, available on request.

101 Welding Ideas for Low-Cost Maintenance

A new bulletin, "101 Welding Ideas for Low-Cost Maintenance," which illustrates and describes a wide variety of money-saving repair, fabrication and structural applications of arc welding, has been published by The Lincoln Electric Company, Cleveland, Ohio.

The new bulletin is published to show, by case studies of 101 actual maintenance jobs, just how general repair work of broken and worn parts—both structural and mechanical—also fabrication of replacements, piping, jigs, fixtures, etc., is done by the electric arc process. The great versatility of the process is indicated by its use in repairing parts of mild steel, high-tensile steel, high-manganese steel, stainless steel, chrome steel, light-gauge steel, aluminum, cast iron, bronze, brass and copper, as well as applying new metal to worn parts to resist any type of wear action in service.

NOTES FOR THE Equipment Buyer and User

Rotary Hook

THE NATIONAL SUPPLY COMPANY

The National Supply Company, Toledo, Ohio, has recently introduced a 60-ton capacity rotary hook of new and improved design. This hook, known as the Ideal Type D-6, is narrow in construction and streamlined to minimize the possibility of fouling, and the high

Ideal Rotary Hook

point of hook suspension on the spring housing gives greater stability and insures against any tendency to overturn. The throat is unusually large and is designed especially to allow carrying the swivel bail in a central position while providing ample additional space for the elevator links. Any upward thrust of the elevator links or the swivel bail is received on the heavy straight section at the top of the hook throat and is not taken on the tongue. Since the hook, when carrying a load, becomes a closed link, the bail or links cannot jump out of the hook.

The hook member is carried on an alloy heat-treated spring with sufficient capacity and travel to insure ease and flexibility in handling pipe. The entire spring and rotation lock assembly is enclosed against water and grit. The tongue is designed to act as a guide to facilitate the engagement of the swivel bail. When the bail is engaged the tongue is automatically locked in position. The safety lock on the tongue is readily operated from the derrick floor. Increased resistance to wear of the hook and bail members is provided by the use of special alloy steels which gives the right combination of strength, toughness and wear resistance.

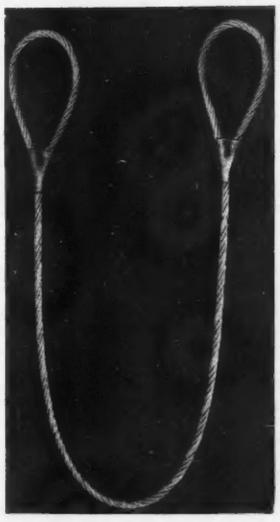
To attach the hook it is only necessary to remove one bolt and the hinged type upper bail may be passed through the clevis of the block. This operation, including locking the bail back into position, takes only a few minutes. A locking device that may be locked in eight different positions provides unusual convenience. This can be operated readily from the derrick floor or from the fourble board.

"Y-Guard" Wire Rope Sling

MACWHYTE COMPANY

Safety to workmen's hands and higher efficiency are claimed for an improved loop-eye sling announced by Macwhyte Company, Kenosha, Wisconsin.

Called the "Y-Guard" sling because of its patented tapered "Y-guard" steel ferrule, it eliminates the protruding ends or wire seizing of the conventional eye splice and costs no more.



Macwhyte Wire Rope Sling

The wedge-shaped "Y-guard" steel ferrule streamlines the sling so it is easily pulled out from under loads and makes it safer to handle.

This improved loop-eye sling is made of Macwhyte Preformed Whyte Strand (improved plow steel) wire rope and its higher efficiency is comparable to a sling equipped with sockets. The loop eyes easily encircle crane hooks.

National Bulletins

National Supply Company has published Bulletin No. 247 on Roebling Wire Rope; and Bulletin No. 246 on "Ideal" No. 34-10-FE Draw Works for the deepest drilling.

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No. 3420 . . . 15 c.c. machine. Cranks and heads interchangeable with 100 c.c. machines.

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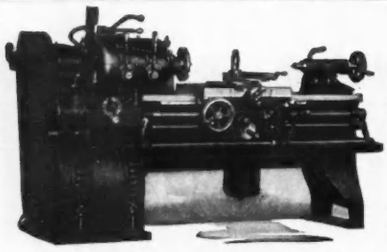

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NOTES FOR THE Equipment Buyer and User

John P. Hoelzel Elected President Pittsburgh Screw & Bolt Company

John P. Hoelzel, formerly vice president and general sales manager of Pittsburgh Screw and Bolt Manufacturing Company has been elected president.

JOHN P. HOELZEL

Hoelzel is widely known in both the steel and petroleum industries, having spent considerable time in the oil regions of this country, prior to his election as head of the company.

The Pittsburgh Screw and Bolt Corporation, large manufacturer of bolts, nuts and rivets, also owns and directs the activities of Colona Manufacturing Company, Monaca, Pa., manufacturers of Colona Pipe Thread Protectors.

Failing Companies Occupy New Quarters at Houston

George E. Failing Exploration and Drilling Company and George E. Failing Supply Company have moved into a new plant and office at 3611 Calhoun Road, Houston. Formal opening was celebrated September 30, when several hundred oil men were guests at a barbecue dinner.

The new Houston plant is modern in every respect and large enough to house the complete shops, stock rooms and offices for operations in the Gulf Coast territory. The new modernistically designed building has a 185-foot front. The construction is of stucco, brick and steel, assuring a fireproof but well lighted building. The shops are equipped to completely build and repair any core-drill unit, while the stock rooms carry a complete stock of core-drill parts and equipment ready for immediate shipment.

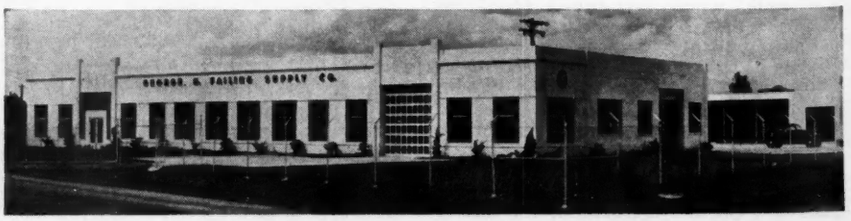
Facilities have been provided at the new location for additional expansion. One full block and additional adjoining space, amounting to 70,000 square feet, make up the companies' property. Of this amount 35,000 square feet have been included in the present office, warehouse, garage and shops.

George E. Failing Supply Company specializes in the manufacture of core-drilling equipment, and manufactures 23 various types of rigs. These range in size from mobile units capable of drilling 4000 feet and suitable for well drilling in shallow producing areas, to small hydraulic seismograph-shot-hole rigs capable of drilling 300 feet of hole.

The Failing companies entered the Gulf Coast area in 1930, and since 1932 their operations in this territory have been under the direction of T. E. Failing. General headquarters of the companies are at Enid, Oklahoma .

Byron Jackson Representative Visiting South America

J. E. (Brick) Elliott, sales executive of Byron Jackson Company, Houston, has completed a tour of the northern fields of South America and extended his itinerary to include those of the western coast and Argentina.



Failing's New Headquarters at Houston and, above, a view of a section of the parts department.

Hughes Tool Company Announces Several Promotions In Its Engineering Department at Houston.

F. L. SCOTT
Research Director

F. L. Scott has been appointed director of research for Hughes Tool Company, having been in charge of rock bit development for the past 22 years. Scott graduated from Texas A. & M. College with a degree of Bachelor of Science in Mechanical Engineering in 1914, and joined the engineering staff of Hughes Tool Company in 1917.

L. E. GARFIELD
Assistant Chief Engineer

L. E. Garfield has been advanced to assistant chief engineer after 13 years in the Hughes engineering department. Garfield graduated from Rice Institute in 1926 with a degree of Bachelor of Science in Mechanical Engineering.

RALPH NEUHAUS
Chief Engineer

Ralph Neuhaus, assistant chief engineer at Hughes Tool Company for the past three years, has been promoted to chief engineer. Neuhaus graduated from Cornell University with the degree of Mechanical Engineer in 1918 and entered the Hughes engineering department three years later, having seen 18 years of continuous service with the company.

R. B. Moir Joins Foote Sales Department

R. B. Moir, who resigned recently as chief engineer of W. A. Jones Foundry and Machine Company, has become associated with Foote Bros. Gear and Machine Corporation as director of sales research and engineering development.

New Atlas Stores in Illinois and New Mexico

Two new supply stores are announced by Atlas Supply Company. The new Artesia, New Mexico store, carrying complete line of supplies for

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Consulting Geophysicists
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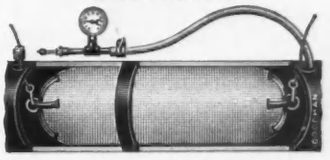
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rotary, cable tool and pumping equipment is under the management of H. F. Oliver, for several years manager of the company's Kermit store. E. L. Chavellier has been transferred from Overton, Texas, where he has been manager for several years, to take charge of the new store at Grayville, Illinois. The Illinois store carries a complete line of rotary drilling supplies and pumping units.

Murray Representing American Iron & Machine in Two States

L. D. (Jiggs) Murray, American Iron & Machine Works Company of Oklahoma City and Houston, has been made sales manager for Louisiana and Arkansas, with headquarters in Houston. Murray before coming to the American Iron & Machine Works Company 2 years ago was in the sales department of Bovaird Supply Company.

L. D. Murray

L. E. Simon to Represent Jensen Brothers in East

Larry E. Simon, formerly of the National Refining Company's engineering department, has been appointed a district representative of Jensen Brothers Manufacturing Company, Coffeyville, Kansas. He will have charge of Jensen Jack sales in New York, Pennsylvania, Ohio, West Virginia and Eastern Kentucky and will have headquarters in Bradford, Pa.

L. E. Simon

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Kropp Forge Company, 5301 West Roosevelt Road, Chicago, has had prepared a handy calculator for rapidly determining the weights of forged square, round, hexagonal and octagonal flats and bars and forged rings and blanks.

No computation is necessary. It is only necessary to know the dimensions of any of the forged shapes covered by the calculator to determine its weight.

These Kropp Forgings Weight Calculators are available at a small charge to partially cover the cost of producing and mailing.

Volume 4 of Petroleum Technology Reviews Published

The Institute of Petroleum, the Adelphi, London, W. C. 2, England, announces publication of Volume 4 of the "Annual Reviews of Petroleum Technology", covering 1938.

This volume, containing 478 pages and numerous illustrations, deals with technical developments in the oil industry throughout the world.

It's a Fact — Johnston

THE WORLD'S SMALLEST OIL LEASE IS ON TOP OF SIGNAL HILL, CALIFORNIA'S GREATEST OIL FIELD. THE ENTIRE LEASE CONSISTS OF ONE SMALL TRAFFIC ISLAND IN THE CENTER OF AN INTERSECTION – A PLOT OF GROUND JUST WIDE ENOUGH TO ACCOMMODATE THE FOUR CORNERS OF A SMALL DERRICK. THE "PIPE RACK" WAS A TRUCK WHICH WAS BACKED UP TO THE RIG WITH A JOINT OF PIPE EVERYTIME A CONNECTION HAD TO BE MADE. THE WELL WAS SUCCESSFULLY COMPLETED AT 4000 FEET AND WAS JUST 7 FEET OFF VERTICAL AT THAT POINT – WELL WITHIN THE CRAMPED PROPERTY LINES!

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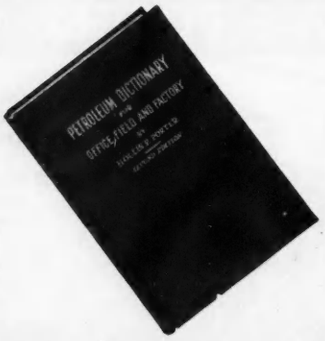

This work grew out of a demand for some source of definition for the terms used by the petroleum industry. It contains over 3,000 definitions of words used constantly by all phases of the petroleum industry. It was published in 1936 and has found its way into engineering departments, legal departments and land departments of producing concerns, as well as to the desks of executives of the petroleum industry.

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Squeaks from the Bull Wheel

An Employe

"You have been with that firm a long time."

"Yes."

"What's your position?"

"I'm an employe."

"But what is your official title?"

"I haven't any official title. It's like this: When the proprietor wants something done he tells the cashier, and the cashier tells the bookkeeper, and the bookkeeper tells the assistant bookkeeper, and the assistant tells the chief clerk, and the chief clerk tells me."

"And what then?"

"Well, I haven't anybody to tell, so I have to go and do it."

Don't Worry

Officer in charge of rifle range:

"Don't you know any better than to point an empty gun at me?"

Raw Recruit: "But it isn't empty, sir; it's loaded."

Parsimonious

"Why do you want your letters returned? Are you afraid that I'll take them to court."

"No but I paid to have those letters written by an expert, and I may use them again some day."

Wrong Dope

They were on a train, and were discussing Dickens.

"Well," said one, "John puts 'Bleak House' first and 'Martin Chuzzlewit' second."

"Excuse me, gentlemen," said a husky voice from the opposite corner. "I don't know your pal John, but I shouldn't believe him. There ain't no such horse running today."

Takes a Little Practice

"My wife talks to herself."

"So does mine, but she doesn't realize it—she thinks I'm listening."

Actors' Queue

"I come from a long line of actors."

"Yeah, I know. Outside the casting office."

Privileged

"What are you children playing?"

"We're playing at church."

"But worshippers shouldn't whisper in church."

"We know that, mother, but we're in the choir."

Narrow Escape

"You didn't carry out your plans to elope?"

"No. I found father was planning to move, and I didn't know where we'd find him when we got back."

Case Dismissed!

"So you kicked your landlord down stairs," he said. "Did you imagine that was within the rights of a tenant?"

"I'll bring my agreement and show it to you and I'll wager you'll agree with me that anything he forgot to prohibit in that lease I had a right to do the very first chance I got!"

He Paid and Paid

Addressing a farmers' group in the northwest some years ago the late Charles M. Schwab proudly informed his listeners that he also was a farmer but could not make any money out of it.

He then told a story on himself, saying that in one year when farm prices were unusually low he offered to permit his wife to run the farm on his property at Loretto, Pa. Mrs. Schwab was pleased with the idea, and although Schwab watched her from time to time and expected to get complaints, there were none. One day he approached Mrs. Schwab and asked out of sheer curiosity.

"Well dear, how is the farm getting along?"

"Why fine," replied his wife. "I have put my earnings into a special bank account for myself."

"Great," said Schwab. Then in an afterthought, he asked: "How are you doing with the expenses?"

"Oh, I'm not bothering about them," answered Mrs. Schwab. "I'm saving them up for you to pay."

Schwab said his wife made money out of the farm that year, but he was out of pocket considerably.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of The OIL WEEKLY, published weekly at Houston, Texas, for October, 1939.

State of Texas, County of Harris, ss:

Before me, a Notary Public in and for the State and County aforesaid, personally appeared A. L. Burns, who having been duly sworn according to law, deposes and says that he is the Business Manager of the Oil Weekly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Ray L. Dudley, 3381 Chevy Chase, Houston, Texas; Editorial Director, Spencer W. Robinson, 5002 Scotland, Houston, Texas; Editor, Warren L. Baker, 2142 Branard St., Houston, Texas; Managing Editor, J. Kent Ridley, 1018 Isabella Ave., Houston, Texas; Business Manager, A. L. Burns, 1751 Marshall, Houston, Texas.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

A. L. BURNS, Business Manager.

Sworn to and subscribed before me this 28th day of September, 1939.

(Seal) J. KENT RIDLEY.

(My commission expires June 1, 1941.)

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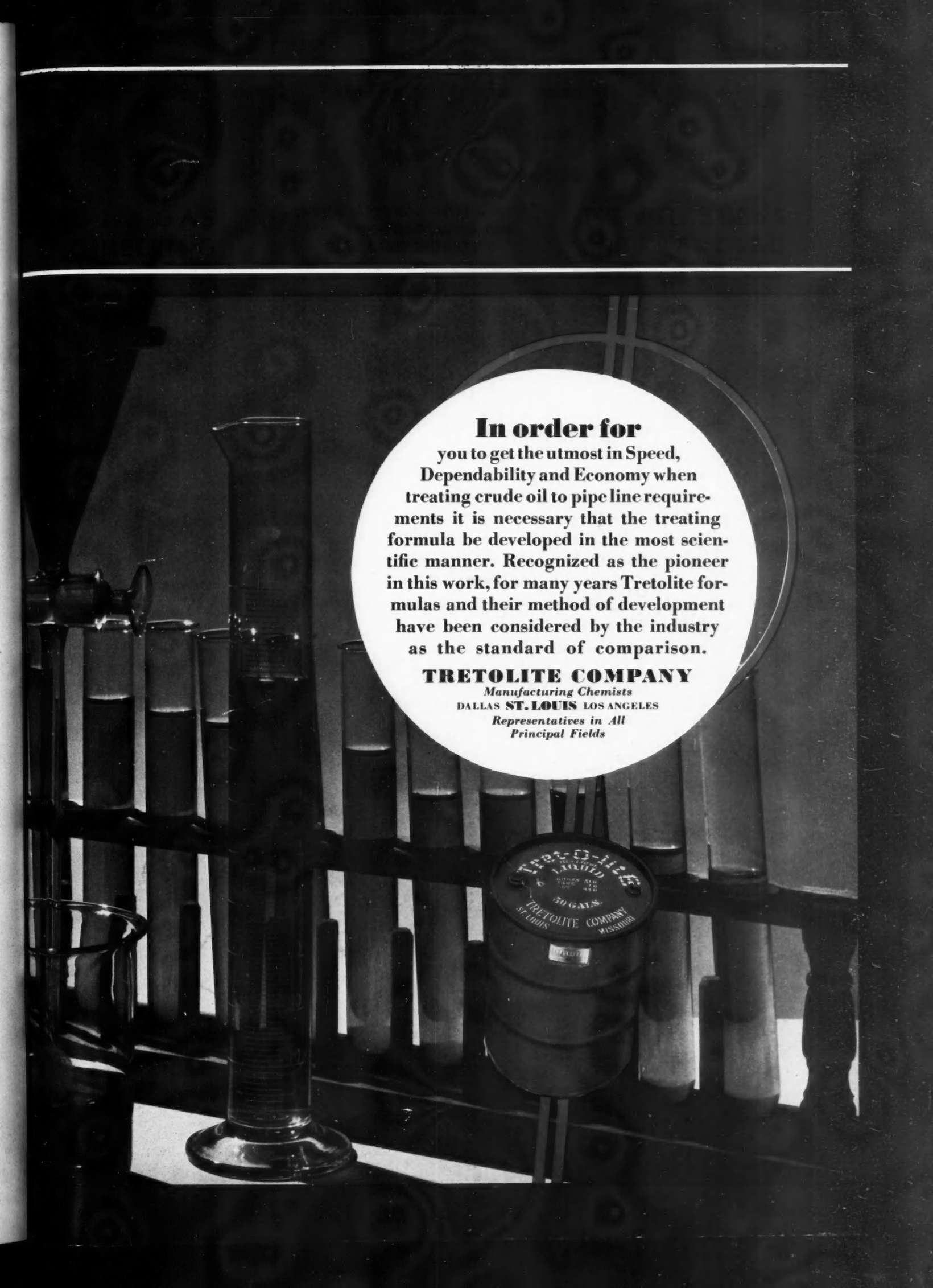
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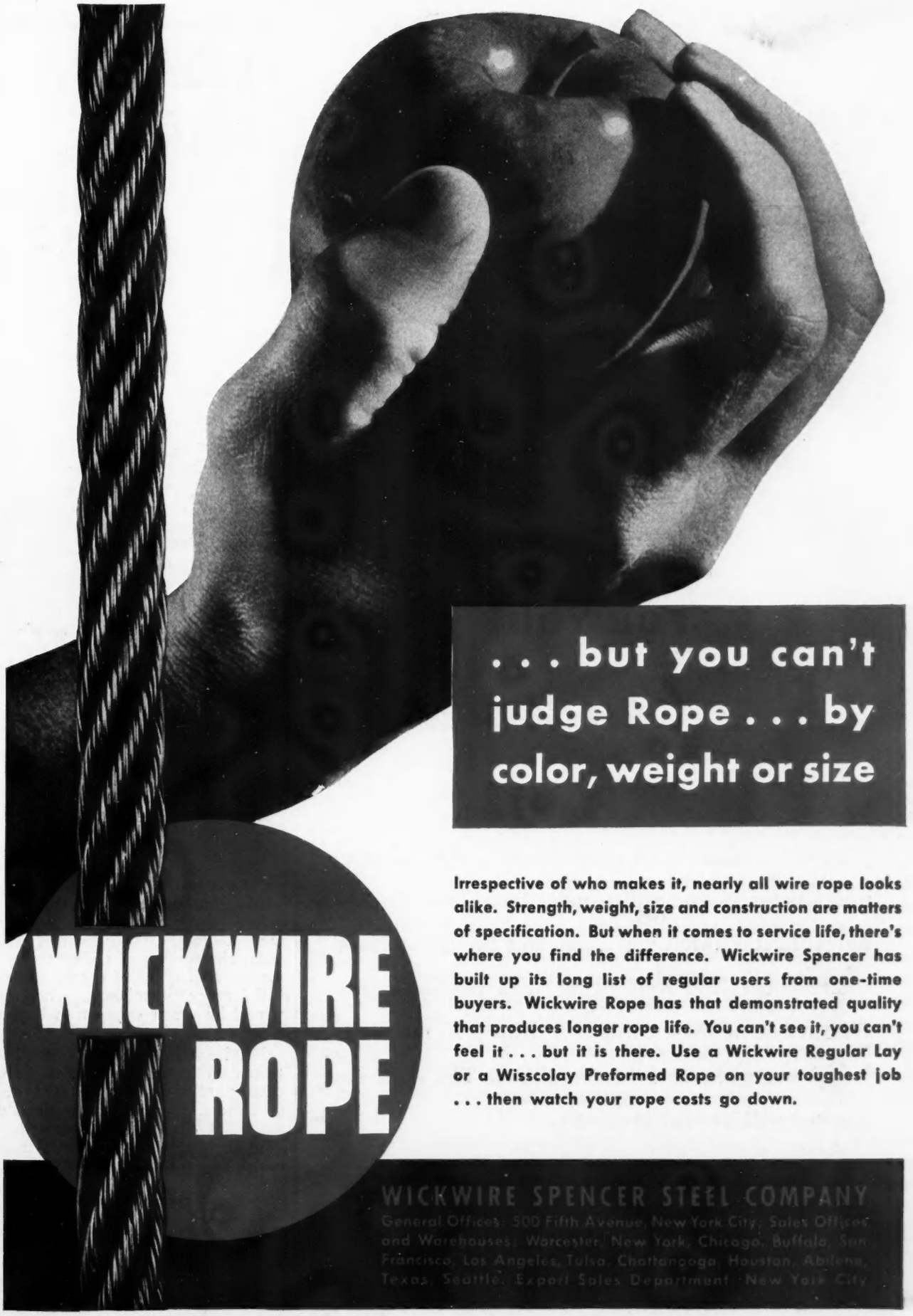

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THE COMPOSITE CATALOG
OF OIL FIELD AND PIPE LINE EQUIPMENT

LOOKING AHEAD

WITH THE EDITOR

"Proper Meter Maintenance Calls For Special Technique"

WHETHER you are a production man or a pipe line man, whether you work on a lease producing gas or oil or for a line transporting either, there will be an article in an early issue of THE OIL WEEKLY that in all probability will allow you to cut from few to many dollars per year from your operating costs. It deals with maintenance of meters.

Offhand you may be prone to think, as we did at first, the subject too elemental for serious consideration. But it is not.

Meter maintenance calls for special technique, and there are so many types of gas and liquid meters that a study of their mechanical functions alone becomes a rather involved one.

Any article that will take up the various types of meters one by one, explain the mechanical function of each, explain what causes trouble, how to diagnose that trouble, and how to remedy it will be of value to any organization using one or more meters. It will help that organization to correct on the spot errors that have been costing money. On the other hand it will show the futility of trying to correct certain types of errors or unsatisfactory conditions when it would be much cheaper to buy a new meter.

Maybe you can draw the line between indicated repair and indicated purchase on one or two types of meters. Can you draw such a line on all the types you are using? And if you decide repair is indicated, can you do it?

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